# American MILK REVIEW

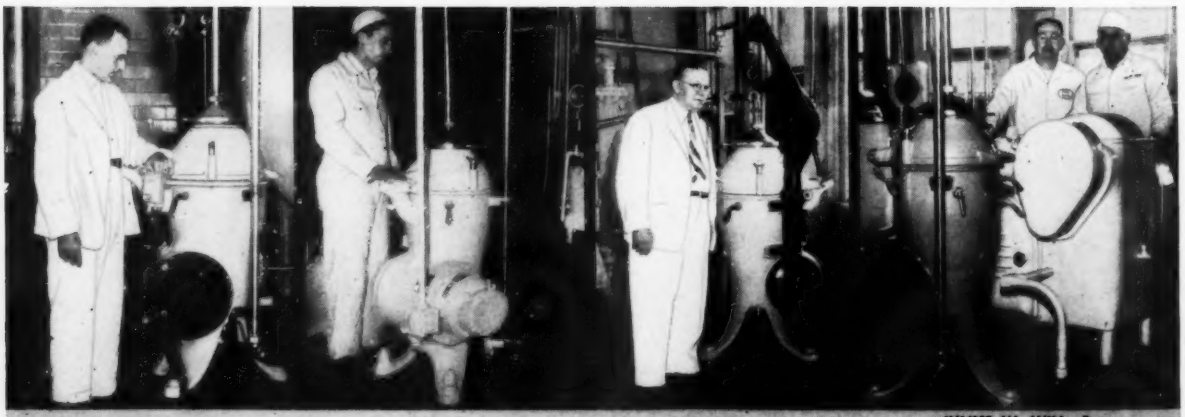
AMERICAN
MILK REVIEW
BUTTER REVIEW
EGG & POULTRY REVIEW

CIRCULATION OVER 15,000 MILK PLANTS

# Every Drop

## OF HOMOGENIZED MILK
## in the city of Baltimore, Md.

# IS CLARIFIED



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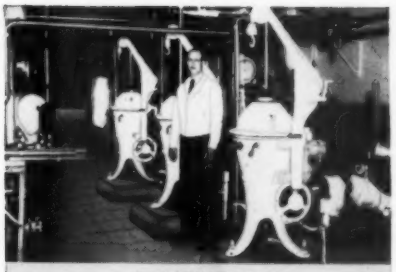
XUM

**Homogenized milk is now available in Baltimore through ten leading dairies. In every one of these ten the centrifugal machine selected to remove cells and thus eliminate troublesome sediment is a De Laval "Air-Tight" Clarifier.**

The ten plants cover a wide range of sizes. De Laval "Air-Tight" machines meet this condition readily—they are available in a capacity to meet every need.

Some of these De Laval Clarifiers in Baltimore are new, installed expressly to be "companion machines" to the milk homogenizers; some are older units that have been in service for several years.

There is no substitute for proved performance—De Laval Clarifiers are backed by more than 38 years of trouble-free experience. Superintendents *know* De Laval can be relied on!



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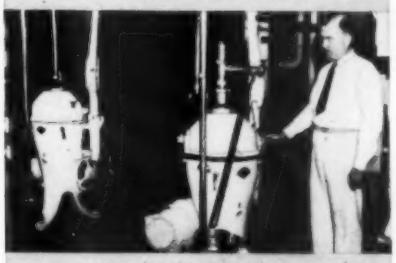

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G. F. KUHLEMANN, JR., Supt.
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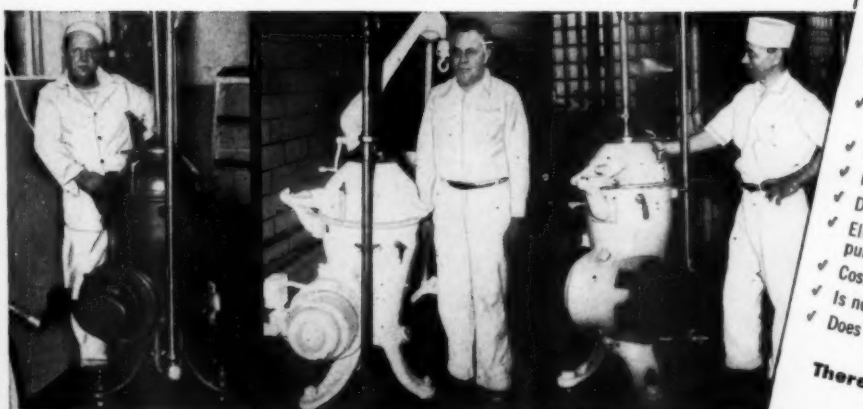

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**FEATURES OF THE DE LAVAL "AIR-TIGHT" MILK CLARIFIER**

- ✓ Removes sediment— doesn't dissolve it;
- ✓ Operates efficiently at either low or high temperature;
- ✓ Helps to improve flavor;
- ✓ Keeps milk from contact with air;
- ✓ Does not cause foam;
- ✓ Elevates milk without additional pumping;
- ✓ Costs less to operate;
- ✓ Is not wasteful of the product, and
- ✓ Does not increase bacteria counts.

**There Is No Substitute For EXPERIENCE**

# Dacro P-38 will make it

## REDUCE YOUR BOTTLING

**THE SMALLER SIZE** *Saves you money!*

Approximately 24 caps for 48 mm. bottles can be made from a square foot of material . . . even less on some types of caps.

41 Dacro Caps for 38 mm. bottles are cut from a square foot of material.

**DACRO P-38 GIVES YOU AT LEAST 17 MORE CAPS FROM EACH SQUARE FOOT OF MATERIAL!**

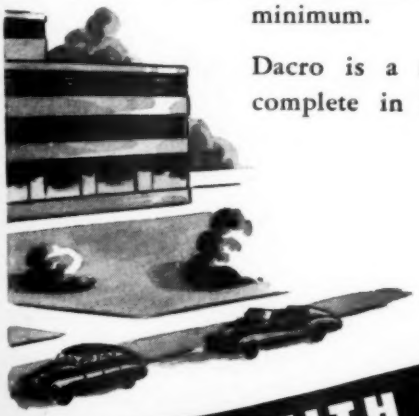
This saving is passed on to you in the form of a lower cap cost.

**EASY AS ANY**

# Completely modern!

Dacro P-38 is the new and smaller cover cap that is revolutionizing old ideas about milk bottle capping. It meets every sealing requirement for milk . . . yet it takes less material to make and is therefore lower in cost. It saves you money on caps every day you operate.

But lower cap cost is not the only advantage of Dacro P-38. The mechanical simplicity of the Dacro Capping System assures smooth, trouble-free operation and keeps all other costs at a minimum.



Dacro is a single cap, complete in itself. The capping mechanism is simple and positive and fits right on the filler. No plug caps, no extra machines, no extra operators are needed. There are no "hidden items" of expense in operating the Dacro System. Capping is fast as well as trouble-free. Production speeds are limited only by the capacity of the filler.

Here, indeed, is the cap and capping system that meets every requirement of modern, high-speed bottling. Be fair to yourself. Get *all* the facts before you decide on any cap. Let a Dacro Representative show you how satisfactory and how economical the Dacro P-38 is proving in plants where it is now in use.

**WESTERN CROWN CORK & SEAL CORP.**

SAN FRANCISCO · LOS ANGELES

*Dacro Division*

## COSTS WITH DACRO P-38 . . .

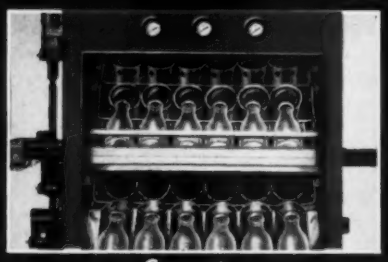
### TROUBLE-FREE OPERATION

*Saves you money!*

With Dacro, capping is dependable and trouble-free. There are few interruptions to the steady flow of production. This of itself, is an important factor in Dacro economy. Users without exception find that Dacro's high capping speed and continuous operation shows a definite saving in time and money.

# Better Bottle Washing in "Your Dairy" with . . .

## THE *New* GIRTON *Soaker Washer*



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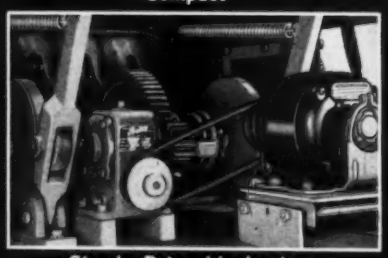
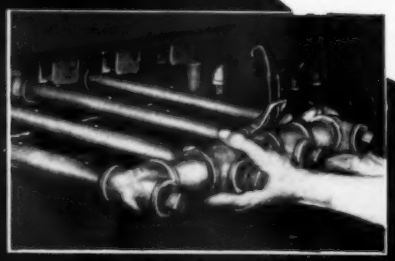


Simple Drive Mechanism

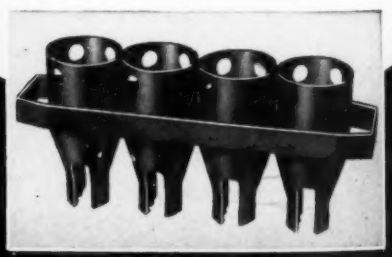
Are you planning new bottle washing Equipment? Learn about the new Girton Soaker Washers designed with a fresh engineering approach. They give better results, are more economical to operate and simple to maintain. Will wash from 16 to 72 bottles per minute. WRITE FOR BULLETIN

**GIRTON**
**MANUFACTURING COMPANY**
MILLVILLE PENNSYLVANIA

High Efficiency Pumps



Complete Accessibility



Strong, Rigid Steel Cups

# American MILK REVIEW

VOLUME 10 - - JUNE 1948 - - NUMBER 6

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# JUNE IS D

THIS JUNE the Dairy Industry is building. At this season of the year—time of heaviest milk production and as a feature of the annual June Dairy Month throughout the nation—one of the industry's major business-building programs is put together for the year ahead.

And, this year the program looms bigger than ever, better than ever and more resultful than ever.

### It's ADA Set-aside Time

For amid the excitement of Dairy Month activities within the industry and carried into retail stores of the nation, dairy producers are also working with the industry to build the new industry-wide advertising, merchandising and research program of the American Dairy Association.

"This year the ADA advertising set-aside in June looms bigger than ever," Owen M. Richards, ADA general manager, promised as the annual June action time for ADA got under way with more states, more plants, more farmers than ever before taking part in the program.

The ADA movement in a few short years has swept the nation border to border and coast to coast on the basis of performance for a program that started small but has grown large because of achieved results for the dairy industry and its products.

### Four New States In

This year four states are taking part for the first time. They are Alabama, Arizona, Georgia and South Carolina. The four bring ADA's membership to a healthy 40 states.

Forty-state participation this June in a program that has a goal of $1,500,000 for the years advertising, merchandising and research, puts the dairy industry into action on a program that means business—good business for the industry.

The ADA program is already rolling, carrying on as it does 12 months of the year.

On the sales side during June ADA will be joined by others in the industry in the largest single promotion for Ice Cream in that products history. This will be the big feature, while the entire Dairy Month campaign naturally will feature all products in special kits of posters and other material.

The Ice Cream drive will easily amount to a special half a million dollar campaign for this product.

Spearhead is ADA with a powerful color advertisement on Ice Cream and Cake appearing in the June 21 issue of *Life* Magazine. This ad, reaching *Life*'s 26,000,000 readers, will be supplemented by additional ADA Ice Cream and Cake advertising in *Good Housekeeping* and *Seventeen* Magazine.

With that start the ice cream industry and America's five million dairy farmers have joined forces to build millions of sales messages in large, colorful magazine ads, newspaper ads, and radio broadcasts which, when added together, will mean Ice Cream coverage of every American home, three, four and even more times.

The promotion links the dairy industry in promotion with giants of the food field in driving home to the point of sale and use, millions of extra promotional messages for Ice Cream. Cooperating with messages for Ice Cream are such firms as

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# DAIRY MONTH

General Mills, Marathon Paper, Pillsbury Mills, the Preserve Industry Council, and others.

### It's Cake and Ice Cream

The promotion had its beginning in the General Mills' program for Ice Cream and Chiffon Cake. Others, including Pillsbury Mills, with promotion of Ice Cream and additional kinds of cake as well as pie, soon came in to assure more nation-wide Ice Cream advertising and merchandising effort this season than ever before.

Total circulation of ADA's advertising in June on Ice Cream approximates 10,000,000. General Mills, with its advertising keyed to Ice Cream and Chiffon Cake, will add more than 35,000,000 in magazine circulation in June and July. Pillsbury advertising will reach an approximate number with radio tie-ins by both scheduled to multiply this Ice Cream barrage.

The Marathon Papér people join the promotion, making it a landslide with full color pages in the *Saturday Evening Post* and other publications. The Preserve Industry Council will advertise Ice Cream with preserves in the *Saturday Evening Post* of May 29.

This sort of cooperation by others is typical of the related item promotions that have become almost an ADA trademark within the dairy industry.

It is the kind of promotion that gets sales action–plus extra action by the advertising forces and sales crews of manufacturers of related foods.

### Sales Follow Through

Sales follow through possible in this type of promotion has just been demonstrated in the Cottage Cheese and Peach drive during May, when ADA and the California Cling Peach Advisory Board teamed for a joint sales drive.

Evidence of the enthusiasm of the milk industry for this promotion were the more than three million Cottage Cheese leaflets distributed by dairymen. This was but one piece in the promotion that brought sales results through the use of store posters, food retailer ads, local newspaper ads, and other sales tools.

### Build For Year Ahead

In the set-aside for ADA this June, the program for the year ahead will be assured far bigger and better merchandising mobilizations in the next 12 months for all products.

This program, already tentatively arranged, shows the following lineup:

Sept. 1948–Milk and Cream–"Better Breakfasts".

Oct. 1948–Cheese–"Cheese Festival"; Cottage Cheese–Pineapple–"Make Your Own Salads".

Nov. 1948–Evaporated Milk–"Pumpkin Pie Time".

Dec. 1948–Butter–Milk–"Holiday Treats".

Jan. 1949–Dry Milk–"20th Century Miracle".

Feb. 1949–Evaporated Milk–"1001 Mealtime Treats".

Mar. 1949–Cheese–"Lenten Dishes"

Apr. 1949–Butter–"Bread 'n' Butter".

May 1949–Cream–"Pour on the Cream"; Milk–"Make Mine a Milk Shake".

June 1949–Ice Cream–"Ice Cream 'n' Cake"; Butter–"Garden Goodness".

July 1949–Butter–"Garden Goodness".

Aug. 1949–Milk–"Invitingly Yours".

With this sort of program ahead, $1,500,000 for industry-wide promotion, the dairy industry is building for better business. It is "Saying It With Sales!"

### Ambitious Program in New York

Milk distributors of New York City, Long Island and Westchester have effected organization of a June Dairy Month Committee, headed by Frohman Holland, Vice President of Holland Farms, Inc., Brooklyn, as Chairman. They have prepared an intensive program of publicity and promotional activities which they regard as the most enterprising plan devised for the New York metropolitan area in the 11 years of the June Dairy Month drives.

It also has been announced that Richard C. Crabb, Manager of Milk Sales for General Ice Cream Co., Schenectady, has been named Chairman of the State Committee for June Dairy Month. The State organization is a separate entity, although all leaders of the industry are in full cooperation.

The New York metropolitan area Committee includes the Milk Handlers and Processors Association, Inc.; the Milk Dealers' Association of Metropolitan New York, Inc.; the Dairymen's League and the Eastern Regional office of National Dairy Council.

This is the first time that the New York City distributors have engaged in a promotion and publicity program of such ambitious nature as contemplated for June Dairy Month of this year. Emphasis will be placed not only on nutritional qualities of dairy products but also on the theme that "dairy products are your best buy."

The cooperation of food page editors has been assured and their extensive publication of recipes based on milk, cheese, butter and iee cream is expected. Mat service to weekly papers in the metropolitan area will provide additional recipe publicity.

A particular effort is being made to engage the participation of numerous radio stars and announcers in both national and local programs.

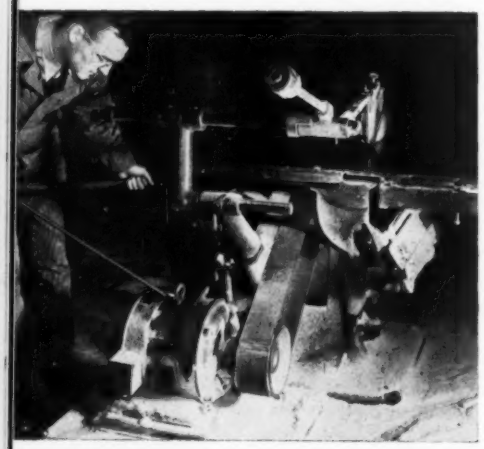
There is being made available to retailers colored posters, streamers and stickers developed by merchandising and advertising experts of the industry. These are obtainable from suppliers. Distributors will place appropriate posters on their trucks. Other point-of-sale material will be available to food stores, restaurants and soda fountains.

This year's general June Dairy Month poster features a drawing of a beautiful girl, obviously in the best of health. An attractive border symbolizes the basic products of the industry–milk, butter, cheese and ice cream. Plans still in the making are pointed toward a proclamation for June Dairy

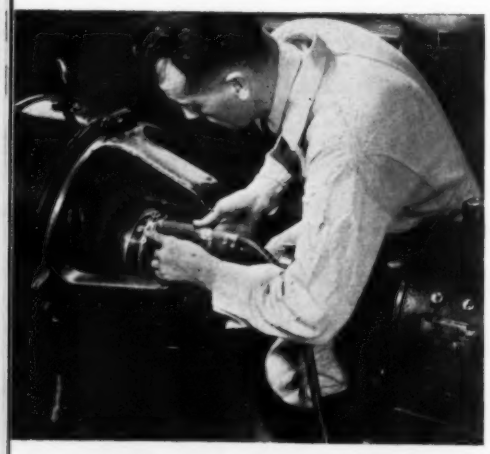
*(Please turn to Page 79)*

# MOTOR MAINTENANCE PREVENTS BREAKDOWNS

After cleaning the motor, the metal protecting hood or cover should be replaced as it aids in keeping moisture off of and out of the motor.



A good way to keep a motor clean in an unusually dusty and dirty location is to use a suction hose to remove surface dust and dirt. Pressure should not exceed 50 lbs.



When motor commutator wears down, under cutting mica below surface of the copper commutator bars on a direct-current motor will prevent sparking and assume proper operation of the motor.

ELECTRICAL EQUIPMENT in the Dairy Industry must operate on a regular schedule, every day in the year, under conditions which are far from favorable. In practically every department the electrical equipment is subjected to excessive moisture. It must not only operate in moisture laden atmosphere but it is exposed to the water used to "wash down" the plant after daily operation.

Maintenance of this electrical equipment presents an operating problem, the proper solution of which is of the utmost importance. An adequate and well supervised maintenance program will go far toward improving operating efficiency, preventing delays, costly in time and product quality, and making existing equipment last longer.

The ideal motor maintenance program aims at prevention of breakdowns rather than their repair. Maintenance involves competent, periodic and systematic inspection. A thorough survey of each motor installation should be made and a systematic inspection and maintenance schedule established and enforced.

Records must be kept consistently on the schedule selected. Several excellent record systems have been developed and reduced to printed form, so that it is not necessary to go to the trouble and expense of devising individual systems.

Prevention of breakdowns may be helped a thorough analysis of the equipment involved. For example, if the difficulty is the frequent tripping of overload relays, it may be that the installation of a different type of relay with thermoguards on the motor will enable the motor to carry the loads without an injurious temperature rise.

### Systematic Inspection Necessary

It is impossible to give any hard and fast rules for frequency of inspection. The following suggestions are based on average conditions.

*Once a week* check oil level in the bearings and see that the oil rings are moving freely. Check the temperature of the motor bearings and primary iron with the hand. Sniff the warm air coming from open motors. The fumes emanating from overheated insulation are unmistakable.

*Once a month* check the motor bearings for excessive wear. Blow out the motor with compressed air. If commutator motors are used, check, brush holders, brushes and shunts.

*Once a year* check air gap with feeler gauge. Check insulation resistance with Megger. Check line voltage with voltmeter, and load with ammeter. Clean out and replace grease in ball and roller bearings. Check renewal parts stock in light of the past years' experience.

*Every two years* dismantle the motor. See that all windings are tight and clean. Minor repairs can be made. Motors in questionable condition should go to repair shop. Inspect any commutators and commutator connections. Sleeve bearings require no flushing. At intervals of about 2 years in average service, or during general overhaul periods, remove the bracket and wash out the bearing housing. Use hot kerosene oil and compressed air if available.

### Faulty Bearings Troublesome

All motors depend upon a mechanical assembly of some sort for the transformation of electrical energy into mechanical energy or work. The bearings are a very important link in this mechanical assembly.

Bearings probably cause more shutdowns, delay and expense, than any other cause. This is not surprising, when it is remembered that they are victims of poor foundations, misalignment, vibration, thrust from couplings, dirt, under and over lubrication, and frequently the wrong lubricant. All these are in addition to their real job of supporting a rapidly revolving part.

Elsewhere suggestions are made to minimize or eliminate some of these causes of failure, but a study of motor bearings may be helpful.

The first requirement of successful bearing operation is lubrication. This en-

*By* **B. P. HESS**
***General Mills Section***
***Industrial Sales Department***

*By* **W. W. McCULLOUGH**
***Supervisor, Repair Engineering***
***Manufacturing & Repair Department***
***Westinghouse Electric Corporation***

tails more than just an adequate supply of lubricant; the lubricant, the bearing design, and its condition, must be correct.

Sleeve bearings sustain the essential oil film to prevent metal-to-metal contact between the shaft and the bearing surface. Properly designed bearings have adequate area for the load, proper oil grooving, working oil rings, and suitable materials.

Safe operating temperature for bearings under normal operating conditions is considered to be 40°C rise above the surrounding room air. At this temperature a bearing feels only comfortably warm to the hand. Assuming proper mechanical condition of the bearing, whether sleeve or ball, and the bearing assembly, and assuming that proper lubricants are used, temperatures elevated above 40°C rise call for immediate investigation.

### Oil Film On Sleeve Bearings

In a sleeve bearing the oil sticks to the shaft and is dragged along by the rotation of the shaft so as to form a wedge-shaped film between the shaft and the bearing. This film of oil carries the load, and prevents metal-to-metal contact. So long as this film is established and maintained there is no metal-to-metal contact in the bearing while the shaft is rotating, and, therefore, no perceptible wear.

Two outstanding considerations govern the maintenance of sleeve bearings. First, is to insure the existence of the oil film once rotation has begun. *Use the right oil.* The second is to minimize the destructive effects of metal-to-metal contact when the film is lost, either by accident, or during the starting period. *Use the right babbitt.*

For sleeve bearings, proper maintenance keeps oil well filled to the proper level and the oil rings turning freely. New oil should be added only when the motor is at rest to prevent overfilling of the reservoir. Oiling of bearings is more often overdone than underdone. Sleeve bearings which require frequent refilling, and thereby leak oil onto the stator windings, should be replaced with sealed sleeve-type brackets and bearings.

### Seal the Bearings

It is well known that oil rings generally carry far more oil than is necessary for proper lubrication of the bearing. When running, most of this oil is carried on the outside diameter of the rings. This excess oil causes splashing and spray inside of the bearing housing. Air currents that pass through the housing pick this spray up and deposit it on motor windings. Sealing the bearing against the entry of air currents is therefore necessary and is accomplished in in all modern designs by close tolerances, felt seals, and air by-passes to offset blower action of rotating parts.

The purpose of the felt washer in these seals is often misunderstood. The real purpose of the felt is to keep out air and dirt. In itself it has little value for preventing leakage of oil once it becomes oil soaked. Bearing wear, which means radial movement of the shaft, spoils the effectiveness of the bearing seals. Replace all felt seals at the same time when replacing sleeve bearings. These felt seals should be ordered from the manufacturer of the motor. If it is necessary to make them in an emergency, use high-grade felt not less than ¼-inch thick before compression. Make the inside diameter of the washer the same as the shaft or slightly less. Cut the felt true with edges at right angles to the surface of the felt.

Oil leakage is generally aggravated by high temperatures. Keep bearings cool and use an oil that does not foam easily.

### Telltale "Clicking" Sound

Ball bearings have become increasingly important with the use of totally inclosed and fan-cooled motors. In a sleeve bearing, as just explained, the shaft when in motion is separated from the bearing by the oil film. In a ball bearing, a series of steels balls act as the separating medium, both when the motor is stationary and when it is running.

To keep the steel balls uniformly distributed around the bearing a cage or

In some locations periodic wiping down with a dry cloth will prevent dust and dirt from getting into the windings. Waste should not be used, as the lint will adhere to the insulation.

Proper method of cleaning and surfacing brushes is to press brush down on a strip of No. 0 or No. 00 sandpaper placed sanded side up between brush and commutator and then pull circumferentially in the direction of rotation.

Eleven years of severe and continuous service showed a bearing wear of less than 15/10,000 of an inch; thanks to proper lubrication and intelligent maintenance.

retainer is used, each ball having its own pocket. The balls have rolling contact with the raceway, but sliding contact with the surfaces of the retainer. This means that lubrication is necessary for the retainer, primarily. Excessive greasing may cause heating.

Most ball bearings used in horizontal motors are grease lubricated although some supplied with vertical motors use oil. Follow the advice of the motor manufacturer in selecting a suitable grease. Carelessness in allowing containers to remain open often causes trouble from abrasive dirt. Soda-base soap greases are usually preferred on account of their high melting point and their stability. They mix readily with water, however, and tend to form an emulsion. Special ball bearing grease is now available in tubes.

Ball bearings in distress can usually be detected by undue heating or by unusual noise. Broken or nicked balls cause rapid destruction of the bearing. They can be detected by the "clicks." A complete new bearing is the solution.

If the conventional 40°C rise above the surrounding air is exceeded, look for an overfilled bearing, since the first result of over-greasing is heating caused by churning of the grease. The general rule is that the housing should not be over half full. Clean the old grease from the bearing and from the housing once a year and replace it with new grease. Average service is assumed.

After the machine is dismantled, the bearing should be carefully wrapped in clean cloth or paper to protect it from outside dirt. Remove all old grease from the housing and clean the housing and the bearing either in Stoddard solvent or in carbon tetrachloride. This is a difficult operation because particles of grit are not soluble and are removed with difficulty. Remove final residue of cleaning medium with a light oil before filling with new grease. The container with fresh grease must be carefully protected from dirt. Keep the cover on tight. Use a clean, non-metallic paddle for applying the fresh grease. If the bearing does not rotate freely and quietly, you have not cleaned it properly or it is beyond repair and should be replaced.

### Check Air Gap With Four Readings

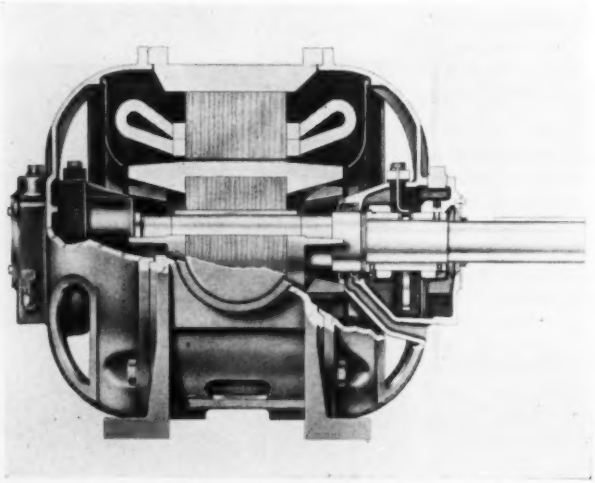
The air gap in a motor is dependent first on proper maintenance of the bearings and second on the proper alignment of the brackets or pedestals with the frame. Alternating-current motors operate with less gap than direct-current motors, and are therefore more critical. Check the air gap with a feeler gauge at the established schedule period. Make these checks at the pulley end, taking 4 readings on each motor, 90° apart. For motors below 10 hp., a minimum gap of .005 in. should be maintained. Above 10 hp. the minimum gap should be .010 in.

Where coupled type motors are used, the couplings require regular inspection. Faulty alignment in a solid coupling is reflected in bearing trouble and vibration. Make sure that all dowel pins are in correct position and check the faces of the couplings with a feeler gauge after the bolts have been removed. Shift the motor position to make the faces of the two half couplings parallel.

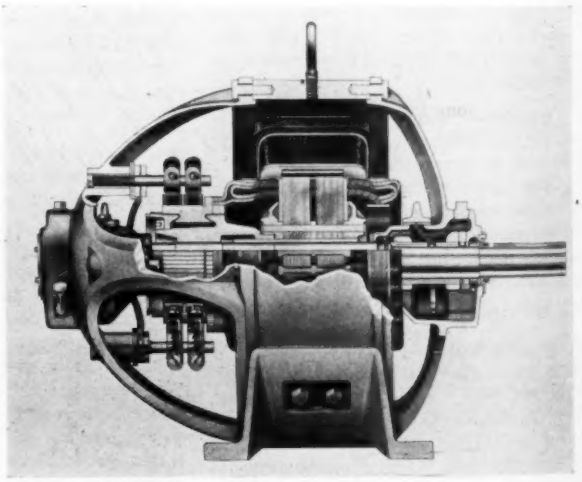
Flexible couplings will operate under more severe misalignment without causing trouble; however, the two halves should be checked with a steel scale to make sure that they are in alignment. Any misalignment means increased wear on the pins, fingers, and leather discs, whichever may be used. Special type flexible couplings should be checked according to the manufacturer's instructions.

The electrical conductors in a motor are separated from the magnetic circuit and from the mechanical assembly by materials generally grouped under the term "Insulation." Insulation is also used in commutators to separate the bars from each other and in coils to isolate individual turns. It is important that the insulation be maintained so as to function as a separator between the copper coils in the motor and the mechanical assembly. Regardless of the class of insulation used, remember that electrical insulation materials are non-conductors only when clean and dry.

The importance of keeping electical equipment clean and dry is always worth stressing. Accumulations of dust and dirt not only contribute to insulation breakdown, but they operate to increase the motor temperature through restrictions of ventilation. Dust and dirt is effectively removed with compressed air at about 50 pounds pressure. Excessive air pressure may force the dirt in rather than blow it out. Do not direct compressed air against the insulation until certain that it is free from moisture that may have accumulated in the air line from condensation. It may not be possible to remove all dust and dirt by blowing with compressed air. If the accumulation of dirt contains oil or grease, a solvent will usually be required to remove it.



Cutaway view of alternating-current squirrel cage motor showing: (1) stator coils; (2) squirrel cage rotor; (3) sleeve bearings; (4) oil overflow and filter plug.



Cutaway view of direct-current motor showing: (1) field coils; (2) armature; (3) armature coils; (4) commutator; (5) brush rigging; (6) sleeve bearing; (7) oil overflow and filter plug.

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There are three types of solvents in general use for this purpose. These are petroleum distillates, such as Stoddard solvent or cleaners' naphtha, carbon tetrachloride, and a mixture of the two. The petroleum distillates are the solvents having the least corrosive action on insulation varnishes, and for that reason, where conditions permit, are preferable to the others. The Stoddard type solvent, produced by all the major oil companies, with a minimum flash point of 100°F, minimizes the fire hazard, and should be used in preference to gasoline or benzene. Every precaution should be taken however, to prevent fires or explosions.

**Use Care with Carbon Tetrachloride**

When this type of solvent will not properly clean the apparatus a mixture of carbon tetrachloride and the solvent may be used. A mixture of 50 percent carbon tetrachloride and 50 percent Stoddard solvent is nonflammable, but the vapors mixed with a right proportion of air are explosive. In extreme cases it may be necessary to use straight carbon tetrachloride; however, the toxic effect of this material on the operator must be taken into consideration.

Carbon tetrachloride is more corrosive in its action than petroleum solvents, and it evaporates much more rapidly. For this reason the residue of carbon tetrarchloride should be removed by applying a petroleum solvent. This will prevent corrosion later on.

Before any solvent is used, be sure that there is good ventilation and minimum fire risk. Do not let the workers' clothing become saturated with the solvent. Always have fire extinguishers of the carbon tetrachloride type handy. If a hose is used to spray either cleaning solution or varnish, make sure that the nozzle is grounded. Workmen should be guarded against breathing the fumes of carbon tetrachloride and they should be under the close observation of someone familiar with artificial respiration. Where conditions are particularly bad, such as in pits, gas masks should be worn.

The time to apply varnish treatment is after the motor has been thoroughly cleaned in solvent. Use a baking varnish recommended by the supplier for the particular conditions encountered. Dry the motor in an oven. Electric or steam heat is the safest and most convenient. Make sure that suitable temperature control is provided and that it is effective so as to prevent injury to the insulation. Maximum dry-out temperature is 115°C. Baking temperature for the varnish and length of the baking period will depend on the type of varnish used. Two dips and bakes may be sufficient for normal conditions, while for extreme conditions of moisture four dips and bakes may be justified. One or two additional coats of red synthetic enamel may be justified under extreme conditions.

**Insulation Testing Determines Comparative Conditions**

Insulation tests are made to determine the condition of the insulation rather than the quality of the insulation. While special conditions may justify dielectric tests, over potential tests, high frequency tests, or dielectric power factor tests, a test to determine the insulation resistance is generally all that is required in maintenance work. Use Class B insulation for motors whose history shows breakdowns resulting from operation at elevated temperatures.

The most convenient way to read insulation resistance is with a Megger. The 500-volt type is generally used. A higher-voltage Megger may damage low voltage insulation. Remember that the readings are valuable only from a comparative standpoint and that they vary greatly with the temperature of the apparatus. A safe general rule is that the insulation resistance should be approximately one megohm for each 1000 volts of operating voltage, with one megohm as a minimum.

**Protected From Outside Air**

Totally enclosed motors, totally enclosed fan-cooled motors, and totally enclosed explosion-resisting motors, all have the frames sealed so as to exclude the outside air. They are well protected against the admission of abrasive dirt and metallic particles that shorten the life of insulation in open motors. For these enclosed motors there are two points to observe.

First, see that all exposed joints in the motor frame and brackets are tight. Use a water-resistant grease in the bracket fits, if the motor is dismantled for any reason. This will help to prevent accumulation of water in the bottom of the motor frame.

Second, make sure that the motor is provided with a drain plug or drain pipe at the bottom of the frame so that any accumulated water can be removed before causing trouble.

Direct-current motors add the commutator and its current-collecting details to the general maintenance problem. The armature is the heart of the direct-current motor. Through it flows the main-line current, and if the machine is overloaded the armature is the first to give evidence of distress.

When dismantling a D-C motor for periodic overhauling the following points should be observed. Do not roll the armature on the floor; a coil may be injured or the steel banding wire may be nicked. Support or lift the armature only by its shaft if possible. Never allow the weight of the armature to rest on the commutator or on the coils. Inspect the coils carefully to see that they are tight and where necessary replace the wedges. However, any major repairs may require balancing the armature, after the repairs are made.

**Lubricating Oils Vary**

A gearmotor is a self-contained drive made up of a ball-bearing motor and a speed-reducing gear unit. It is designed to take advantage of the electrical efficiency of the high-speed motor and the transmission efficiency of accurately cut and properly designed gears.

Suggestions already given apply to the motor element of the gearmotor unit. Front and motor bearings are generally grease-lubricated and require the same attention as in standard ball-bearing motors. Rear bearings, gear box bearings, and the gears themselves are almost always splash-lubricated from the same oil supply reservoir in the lower section of the gear unit. Oil seals at each bearing prevent oil leakage into the motor windings and out along the driving shaft. The precision cut gears demand carefully selected lubricating oils. Use only top-grade oils of the viscosity called for by the manufacturer of the gearmotor.

The areas of contact on gear teeth are relatively small and the pressures produced in transmitting the loads are relatively large. It is essential to provide a film of lubricant of sufficient strength to withstand the localized pressure during the period of contact. The peripheral speed of the gears governs the period of tooth contact and determines the time during which the film must withstand the pressures. When speeds are high, the time is very short, the loads are usually light, and a comparatively light-bodied lubricating oil can be used. When speeds are low and the loads heavy, the contact time is considerably longer and a heavier bodied oil should be used.

**Watch Oil Level**

See that the oil level marked for each gearmotor unit is maintained. For normal operating conditions, drain the oil reservoir in the lower section of the gear case once a year and refill with new oil.

Proper maintenance, as outlined in the foregoing, is important even in normal times. In these times when full production is demanding many of our critical materials, our manufacturing facilities and our manpower, the importance of an adequate maintenance program cannot be overstressed. Such a program will do much toward maintaining peak operating efficiency.



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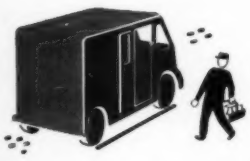

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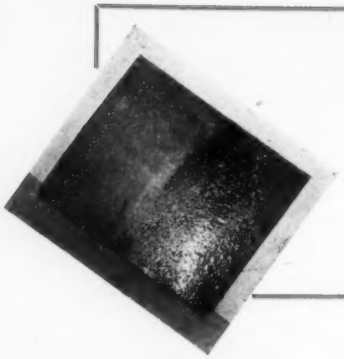

# STEAM DETERGENT CLEANING

**How and Where to Use Steam-Detergent Cleaning in the Modern Milk Plant**

*By* **JOSEPH SAMUELSON**
***Oakite Products, Inc.***

WHEREVER THE EMPHASIS is on speed and economy in modern industry, Steam-Detergent Cleaning has not only superseded manual brushing or scraping, but has also proved its superiority over any number of variants of the common steam-cleaning process.

Steam-Detergent Cleaning may be defined as the simultaneous application of three different actions: the *physical action* of steam pressure and hot water working their way through successive layers of grease and dirt; the *dissolving action* of heat on oils, greases, other deposits; the *chemical action* of the detergent in wetting, penetrating and emulsifying surface deposits.

Experience in a great variety of industrial cleaning jobs has indicated that this simultaneously applied combination of efficiency factors provides the ultimate in cleaning speed and thoroughness currently available.

### The Solution—Lifting Steam Gun

The solution-lifting steam gun (figure 1) solved the problem of economical, quick delivery of the detergent solution into the flow of steam in the gun, and application of the resultant combined steam-detergent spray to work surfaces. Prior to the introduction of this steam gun in 1938, most steam cleaning required the use of pressure tanks, pumps or injectors. The unique design of this gun made possible easy, low-cost and mobile steam cleaning anywhere in a shop or plant at a location reasonably adjacent to a steam outlet. It made unnecessary the gravity flow of detergent solution from an overhead container, which usually involves the construction of sturdy shelves, ladders for changing the feeding solution, and extra-long hose to run to the steam gun. With the solution-lifting steam gun, all that is required for steam cleaning is a solution container, steam, and solution supply hose.

### Principle of Design

The design of the solution-lifting steam gun is an adaptation of the well-known Venturi principle. Engineering applications of the Venturi theory are common in industry for measuring and controlling the flow of liquids or gases. Water flowing from a faucet passes through a narrow opening at "A" (figure 2) which increases the velocity and diminishes the pressure. The diminished pressure creates a partial vacuum so that air, other gas or a liquid from container flows in at "B" and mixes with the water. Difference in pressure (since atmospheric pressure, 14.7 p.s.i. abs., exists at container) causes the aspiration or "flow upward" of gas or liquid.

The design of the vacuum-head casting of the solution-lifting steam gun thus makes possible the lifting of the detergent solution from the container, through the hose, and into the flow of steam.

Steam-detergent sprays may be raised by the gun as high as 12 feet above the level of the container, providing the proper steam pressure is available at the steam valve of the gun. If insufficient steam pressure is present, the velocity will not be increased to the rate required to develop the partial vacuum (diminished pressure, as in Venturi principle) necessary.

### Steam-Detergent Cleaning Saves Time in Milk Plants and Dairies

Because steam-detergent cleaning is speedy, thorough and simple, it has been widely used in the nation's milk processing plants for many years. Clean-up crews particularly recommend it for cleaning and/or paint-stripping the following equipment:

- milk wagons
- milk cases
- bottle conveyors
- exteriors of bottle-washing machines
- underparts of railroad milk tank cars
- red brick and red tile floors
- machinery in butter-print room
- sealing section of paper-milk container machine (using air instead of steam)
- bottle-capping machine
- milk-can conveyor tracks
- milk-drying rollers in dried milk plant

### Preparing the Solution

Any convenient container, for example an open-top oil drum, will serve to hold the detergent solution. The drum or tank may be mounted and secured on dolly or wheeled chassis.

To dissolve the detergent, drop the required amount of material (if 50-gals. of solution at 2 oz./gal. concentration is to be made up, the amount is 6¼ lbs.) in five gallons or more of cold water. Dissolution can be made easier by inserting the nozzle of the steam gun in the container and turning on the steam supply valve to allow 5 minutes for agitation. When the material has been completely dissolved, remove the steam gun and add cold water in full amount to complete the required solution.

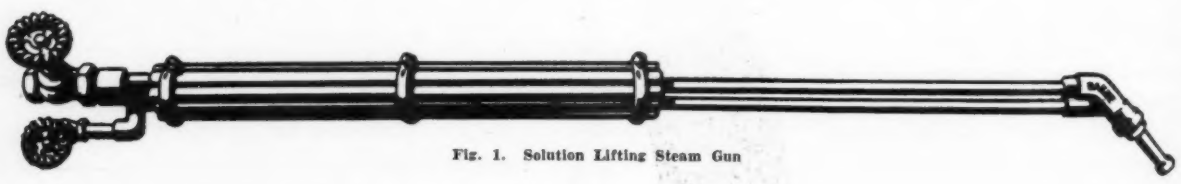

Fig. 1. Solution Lifting Steam Gun

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No heating-before-use is required for the solution in steam-detergent cleaning. Usually, the steam pressure that lifts the solution possesses sufficient heat for the average cleaning task. For example, steam delivered at 40 p.s.i. has temperature of approximately 290°F. While this does not mean that the solution which meets the steam in the gun is heated to the same temperature, it can be assumed that the solution temperature at the nozzle of the gun will be about 160°F. if the temperature in the container is at 80°F.

Even if cleaning is done at higher steam pressure—and therefore higher steam temperatures—there is no danger of the chemical constituents of a scientifically compounded detergent breaking down under the impact of heat. These detergents are specially designed to withstand such higher temperatures.

## Installation

### Fittings

In many cases, inadequate flow of the detergent solution into the flow of steam will result in a certain dry quality of the steam-detergent spray, whereas a "wet" spray is generally required for fast cleaning performance. The cause of the dry spray is often improper fittings. For example, using a ⅜" I.D. fitting on a ½" hose with a ¼" nozzle in the steam gun will produce an inadequate steam-detergent spray. Replacement of the ⅜" fitting with one providing a full ¼" opening would, in this case, give steady, full aspiration of the solution from container to gun nozzle.

When making connections to the steam valve of the gun, make certain that high-quality 4- or 5-ply steam hose is used. Also use leak-proof steam couplings at each end of the hose to make secure connections. "Boss" couplings, manufactured by the Dixon Valve and Coupling Co., Philadelphia, Pa., are recommended. Examine couplings periodically to make sure that they are tight. Many accidents and extended loss of time result from poor hose quality or improper connections.

### The Pressure Gauge

Installation of a pressure gauge at the point shown in figure 3 is recommended for all steam-detergent cleaning installations. This is important. The operator should know at all times the working steam pressure. When starting, the operator will usually open the steam valve on the gun fully, and then adjust the steam supply valve adjacent to the pressure gauge (see figure 3) so that the desired operating pressure is obtained. After this initial step, the steam valve on the gun may be opened or closed during the cleaning procedure with full assurance of a correct flow of steam.

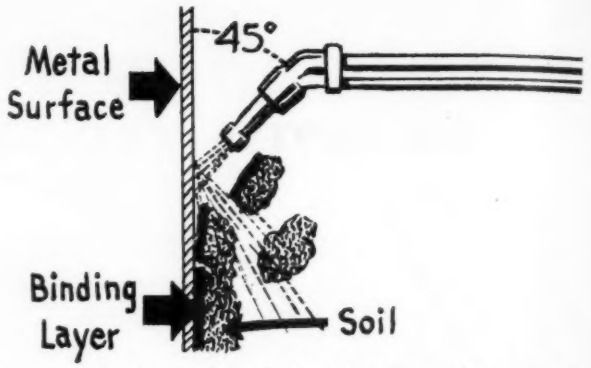
### Solution Flow to the Gun

Amount of solution leaving the gun nozzle depends upon the available steam pressure. If, for example, 60 lbs. pressure is in use, the solution control valve of the gun should be opened just enough to deliver ½ to 1 gal. per minute of the steam-detergent spray.

Accurate measurement of the volume and rate of delivery of the steam-detergent spray is not feasible, nor is it necessary for practical, efficient cleaning. To determine whether sufficient volume of spray is being discharged through the gun nozzle, do this: Play the gun on a flat surface. Open the solution valve until a sudsy circle of solution approximately 12 inches in diameter appears on the surface. It is very easy to avoid blow-back if the gun is held at a 45 to 60 degree angle, at a distance of 4 to 6 inches from the surface to be cleaned.

### Angle of Direction of Gun Nozzle

The average grease-and-grit removal job may be done by spray-soaking all surfaces to be cleaned, then returning to the starting point for systematic steam-detergent cleaning. This provides a short period for the penetrating chemical




action to develop and "soak through." It results in considerable reduction in over-all cleaning time.

For best cleaning results, it is general practice to hold the gun in such a position that the spray discharged from the nozzle will hit the surface at an angle of 45 degrees. In this way, spray delivers a cutting action similar to that shown in figure 4.

### Insufficient Steam Pressure

When steam pressure is less than 15 p.s.i., the partial vacuum will not be created in the gun mixing chamber and it will be impossible to lift the solution unaided. In such instances, the solution container may be installed at an elevated position, approximately five feet above the work, and the combination of low-pressure steam and gravity feed will produce adequate steam-detergent spray.

### Excess Steam Pressure

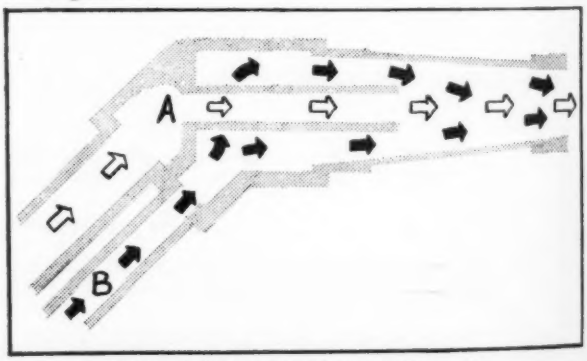
When hooking into a steam line which carries high pressure steam (140 p.s.i. for example), the pressure should be reduced before it enters the steam gun. Such excessive pressure makes it difficult for the operator to manipulate the solution-lifting steam gun. A pressure regulator should be installed at the steam outlet before tapping the steam line for cleaning purposes. Efficient, easy-to-handle steam pressures usually do not exceed 100 p.s.i.

### Air Pressure

If the heat of steam is likely to endanger protective coatings or underlying sensitive metals, use compressed air in place of steam to carry the solution from the container through the gun to the work.

### Wet and Dry Steam

In those cases where an undue amount of condensate exists in the steam line, install a steam separator to draw off the excess condensate. Build-up of condensate will clog the line and prevent proper aspiration of the solution from the container into the gun. Excessively dry steam, on the other hand, provides a poor vehicle for transporting the detergent solution from gun to surface because of the small size of the water globule.




Action of Venturi Principle in the Steam Gun

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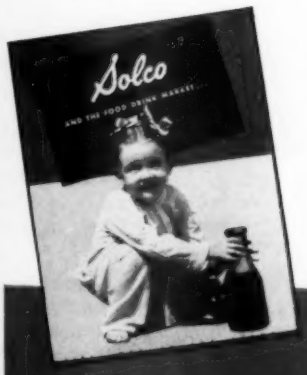


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# EDITORIALLY SPEAKING . .

## June Is Dairy Month

A SHORT TIME before his death in the Year of the Pig, Genghis Kahn, the great leader of the Mongol hordes that swept across the steppes of Asia in the thirteenth century, called his four sons together. To each he gave a bundle of arrows with instructions to break the bundle. This the heirs could not do. The old Mongol thereupon gave each son a single shaft and bade him break that. This the sons did easily. "Stand together," the Chieftan said, "And you will be invincible. Divide and you will be broken."

History is full of such demonstrations of an immutable truth. Aesop built a fable around the idea and the moral has become a by word in the Republic, "In union there is strength". Lincoln's famous "house divided" speech built on the biblical quotation, expounded the doctrine of union. In nearly every phase of human endeavor the virtues and values of union, of cooperation, stand in striking contrast to the fallacy of conflict.

The dairy industry is no exception to this truth. The bitter lessons learned under the whip lash of cut throat competition for supplies and for customers have been heeded. Competition is very much alive, to be sure, but it is a constructive competition based on the idea of "live and let live" rather than on the thesis that the strong must drive out the weak.

In the June Dairy Month promotion program the dairy industry is acting as a unit. The success of the campaign will be in direct proportion to the enthusiasm and the unity with which dairymen participate. Its benefis will devolve upon large and small operators alike according to the degree of their activity.

There are in the nation, perhaps a dozen firms of sufficient stature to finance and conduct a promotion campaign of a scope approaching the June Dairy Month promotion. They have not chosen to do so. Their decision is a tribute to the high value of the cooperative undertaking. It is a tangible recognition of the wisdom of joint action.

The campaign itself is a good one. It employs sound methods of procedure. The advertising and display material is excellent and obtainable at low cost. It is country-wide in its scope and has the inestimable advantage of being not only of value to its participants but also a message of health and well being for the people of the nation. Finally its rewards will be expressed in the visible facts of increased business as well as in the more intangible satisfaction that result from a grand concept well executed.

To your editor, the outstanding achievement of this splendid activity lies in its positive nature. There is no profit in evading the fact that the fight waged by the dairy industry in the matter of oleo, justifiable as it may be, has placed the industry in an unfortunate position as far as public thinking is concerned. The battle on the oleo issue is negative. June Dairy Month is positive. June Dairy Month is in the tradition of the great words that have stirred men to action through all history. "I cannot beat a retreat, Sire, but I can beat a charge that will make the dead fall into line. "Attack, always the attack." These are the doctrines that fire the souls of men.

The American Dairy Associaion has put the thought into words. "Regardless of handicaps . . . regardless of legislation . . . aggressive advertising merchandising and SELLING . . . over the long pull . . . is going to win the Battle for Butter Markets."

These are words that can find their counterpart in all of the successful enterprises in the story of mankind. For the hundred quart operator or the million quart distributor the month of June is a month of opportunity. Union and action—these are the blue prints of victory.

•

## Paging Adam Smith

A FAVORITE AMERICAN PASTIME of late is to beat the drums for FREE ENTERPRISE. The American Way, Regimentation, Individual Liberty, are phrases that people toss about with a facility that is equalled only by their ignorance of what the words mean.

The thoughts behind these words are profound thoughts touching upon fundamental concepts of liberty and freedom of action. The drum beaters are not to be too severely censured, however, because, in a vague sort of way, they have some glimmering of the deep significance of their catch words.

What these words really express is an aspiration that is as old as mankind. Men have ever sought to synthesize the ideas of liberty and security, of order and freedom. The goal has been approached by force of arms, by law, and by cooperative action. As yet the ideal has failed of fulfillment. Freedom is a hard bought thing and the coin is intelligence. Many times men have been within sight of the pinnacle but each time there have been flaws in human nature that have prevented the ultimate realization of the hope.

The dairy industry is one of the most highly regulated industries in the United States. There are health regulations, price regulations, quality regulations, tax regulations that at times appear overwhelming. To your editor, this is not a healthy situation. Health regulations we concede are necessary. A wide variety of regulations, differing with political boundaries and ofttimes used in the interests of economic coercion are not necessary. They are a barrier to progress.

Price regulations, we grant, have brought about orderly marketing but we would much rather see dairymen work out their own problems with their producers and their consumers on their own initiative.

We harbor no illusions regarding the difficulties of such a procedure. Although we recognize anarchy as the highest state of human organization we also recognize the futility of of ever expecting its attainment. We do not advocate unlimited freedom in the market place simply because, as a practical matter, we do not think that it would work. What we do advocate is a constant attempt on the part of dairymen to so handle their enterprise and so work out their relations with competitor, producer and consumer that regulations can be decreased rather than increased.

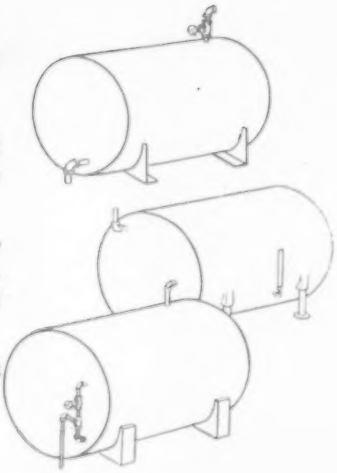
Regulation and order are compatible. Regulation and liberty are not. Effective regulation must come from the individual. Effective order must come from the actions of men who understand the true meaning of responsibility. Then and only then can freedom be realized. We shall never cease to preach the doctrine of liberty but we must also preach that freedom is the law of civilization and not the law of the jungle.



XUM

# OUTSTANDING

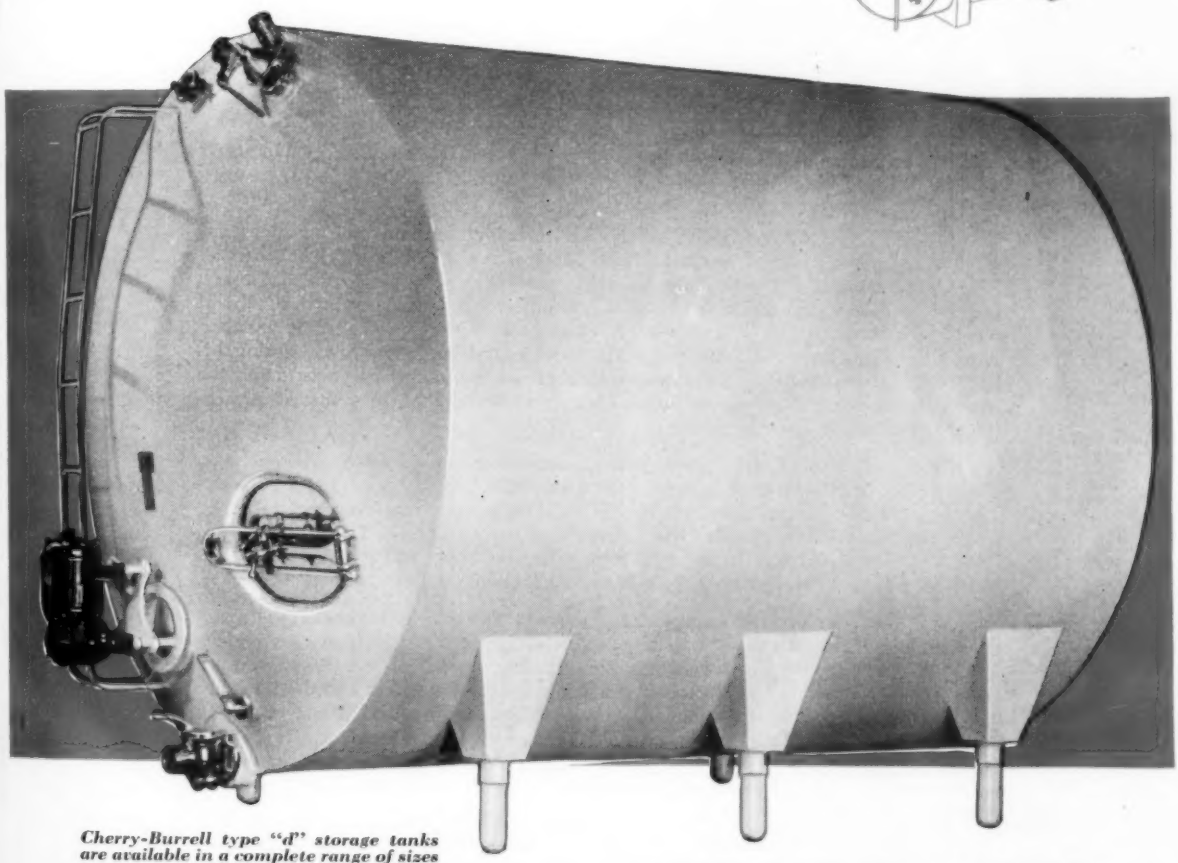
## *among all storage tanks*



**You might think most storage tanks are alike—especially if you have not heard the full story behind the design of Cherry-Burrell type "d" tanks. Consider these few among many outstanding features:**

**Only the type "d" tanks have the "Deep-Dish" heads—which mean greater "knuckle radius"—a sweeping, rounded joining of the heads to the side sheets. "Deep-Dish" heads also mean a stronger tank. Cleaning is easier, quicker and more thorough.**

**Ask your Cherry-Burrell representative about these and other features that place the type "d" tanks in a class by themselves.**



*Cherry-Burrell type "d" storage tanks are available in a complete range of sizes up to 7000 gallons, in plain insulated and three refrigerated models. Conform to existing 3A standards.*

**CHERRY-BURRELL CORPORATION**
*General Sales and Executive Office:*
**427 W. Randolph Street, Chicago 6, Ill.**
*Milk and Food Plant Equipment and Supplies*
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

*trendmaker in a great industry*

DR. GEORGE M. TROUT

# Portrait of a Dairyman

DOUBTLESS IOWA COMES AS NEAR to being the land of Canaan as any state in the Union. Situated in the heart of America's breadbasket, one always associates it with milk and dairy products, wheat, and corn, cattle and hogs. It is not strange that a lad born on a Southeastern Iowa farm in the midst of plenty should devote his life to a study of milk and dairy products. If one had visited the farm home of Dr. George M. Trout near Biringham, Iowa, during his boyhood, one would hardly have suspected that the big, awkward youth doing the chores would some day become an authority on the milk he so painstakingly extracted from his father's herd.

Dr. Trout, like all good Iowa sons of the soil, attended Iowa State College. He obtained his Bachelor of Science degree in 1923 and his Master of Science degree in 1924. Dr. Trout taught at West Virginia University for five years when he joined the faculty at Michigan State College and the staff of the Michigan Agricultural Experiment Station. In the mid thirties he was appointed a Clinton De Witt Smith Fellow at Cornell University where he obtained his Doctors degree in 1936.

Dr. Trout, during his 20 years at Michigan State College, has conducted many experiments on the processing of dairy products. He is best known for his numerous studies on the effect of homogenization on certain physical and chemical properties of milk as well as on the quality and flavor of milk. Other contributions are his work on the factors that influence the stability, quality and flavor of frozen sweet cream. As a judge of milk and dairy products and as a member of the Committee on Judging Dairy Products of the American Dairy Science Association, he has worked to perfect the reliability of organoleptic tests in the judging of dairy products.

In addition to his research work, Dr. Trout is a teacher and popular one too. He is a much sought after speaker at dairy short courses and dairy meetings throughout the country often traveling from coast to coast during the course of a year on such speaking engagements.

In 1945, as a fitting tribute to a life time of service and devotion to the dairy industry, Dr. Trout received the Borden Award in dairy manufacturing—an award which he rightfully merited and richly deserved.

# BETTER Cleaning —at LOWER Cost— calls for more than Wishing

No dairy plant can *wish* its way to a really efficient cleaning job—that calls for individual engineering to your particular water conditions and equipment. The *right* type or mixture of DIAMOND Cleaning Compounds can actually stop scale formation, give you *better* cleaning—and in most cases, save you money in time and materials, too. ● Let your Diamond distributor *prove* it!

DIAMOND ALKALI COMPANY
Cleveland 14, Ohio, *and Everywhere*

ALKALI ®

**ENGINEERED PRODUCTS for the DAIRY INDUSTRY**
**Cleaning and Washing Materials · Neutralizers · Basic Alkalies**

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*In 50 Principal Cities of the U. S. A. and Canada*




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# DAIRY MAINTENANCE PAINTING

**Paint Used In Dairy Plants Must Resist Moisture, Fumes, Alkalis, and Acids If It Is To Contribute To Cleanliness and Sanitation**

*By* **JAMES A. MEACHAM**
***Sherwin-Williams Company***

PROPER PAINT maintenance in dairy plants is a problem to which paint engineers have devoted considerable research in recent years.

In dairies, as in many other types of commercial establishments, paint is called upon to contribute to the general overall appearance of cleanliness and sanitation while at the same time it must meet peculiar service conditions.

Paint making has made marked technical strides during the last decade—even during the period of wartime shortages. Now that paints are in better supply, these improvements are becoming available for practical use. And they make it possible for dairy plant operators to use paint materials which meet requirements better from standpoint of color retention as well as from the aspect of durability and long-wearing service.

### Service Conditions Important

Generally speaking, dairy plant painting involves consideration of suitable materials for floors, walls, and ceiling and equipment and fixtures. The use of specified materials is, of course, governed a great deal by service conditions, so that the types of paint used may vary depending on type of operations being performed in various areas in the plant.

A more nearly satisfactory job may be expected where a trained painting engineer is consulted as to specific plant requirements.

There are, however, a number of general factors which apply to nearly any type of dairy plant operation. Paints used in dairies ordinarily must be highly resistant to moisture and fumes. In addition, they must be resistant to acids and alkalis that are frequently encountered in connection with normal production and cleaning operations.

As to where to apply these specific types of finishes, consider the various painted areas:

*Floors:* Paint manufacturers have been able to produce floor enamels which are well-suited for use on concrete floors which are not subject to frequent scrubbing. Much of the durability of such finishes depends on the care taken in application. For instance, the floor itself should be free of moisture before the surface is painted After painting, the coating should be allowed to dry thoroughly. Floor paints are not uniformly successful on concrete floors resting on the ground unless extensive precautions are taken to avoid moisture coming through. For areas such as the processing room, and bottling room, where floors are washed down daily, there is no floor paint that will perform satisfactorily for any extended period. Hence, it is usually most practical to have a bare concrete floor or to finish the floor in tile.

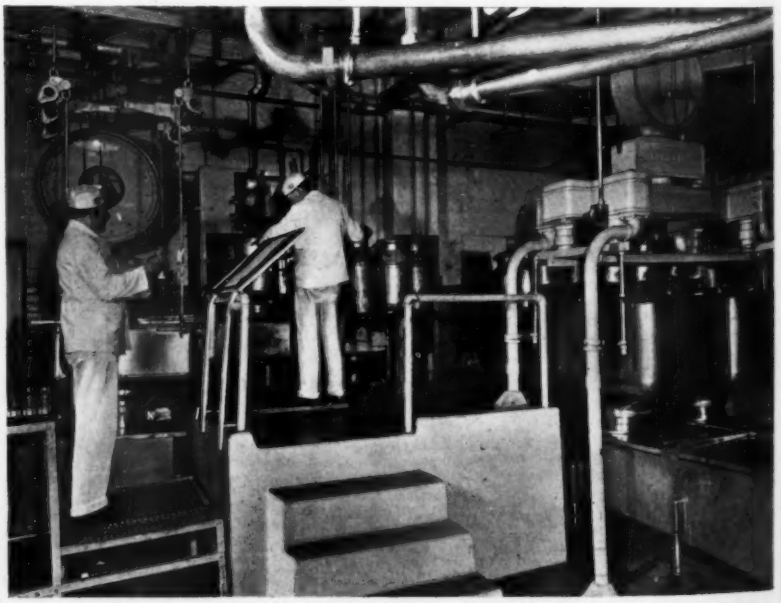
*Walls*—Experience has proven moisture and fume-resisting semi-gloss or gloss paints to be preferable for wall surfaces. Because they connote cleanliness, white or ivory are good color choices. However, any one of a number of light pastel shades would be equally suited.

The moisture and fume-resisting semi-gloss paints are not noticeably affected by condensation of steam or exposure to lactic acid in processing and cleaning operation. These coatings have good washability and may be cleaned again and again without impairing their beauty or protective ability.

### Lower Surface Treatment

Frequently, a dado is used around the lower four or five feet of the wall in a darker color than is used on the upper wall. Moisture and fume resisting paints are generally required for this application. However, where exposure conditions warrant, it is sometimes advisable to use acid and alkali resistant enamels. The gloss of the paints used on lower wall surfaces should be fairly high.

*Ceilings*—Where steam and moisture condensation occur, semi-gloss moisture and fume resistant finishes in white or ivory are normally desirable also for ceiling use. In addition to affording good performance in service, semi-gloss paints in these colors provide maximum light reflection without glare. Their charac-

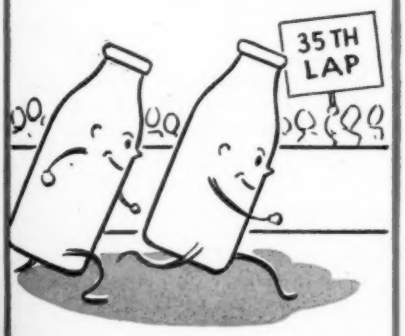


**Moisture and fume resistant semi-gloss finishes are highly practical for use on walls in the dairy plant receiving room, such as pictured here. Metal equipment in this location if not stainless steel can be preserved with new alkali and moisture resisting enamels.**

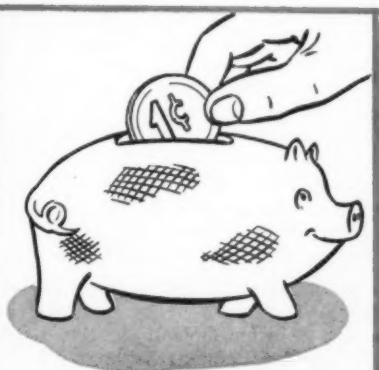


XUM

# You can't beat RETURNABLE GLASS BOTTLES for reducing costs!




*Only returnable glass milk bottles make 35 round trips or more each — result: lowest cost container for milk.*



*Costs approximately 1¢ a quart less to package and deliver milk in glass bottles. — Don't throw your profit away on other type containers.*

*Thatcher T-Squares increase cold room storage by 50% and truck capacities up to 63% — two of the best ways to reduce costs for more profit.*

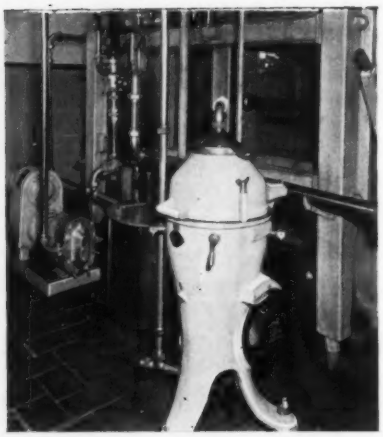
Now's the time for dairies to watch costs. A recent study shows profits per $1 of sales is only 1¢ — a slim margin that must be held and increased.

Thatcher offers you a "double-barreled" helper that can't be beat for reducing costs . . . which is the best way to increase profits. It's the *returnable, glass,* T-Square milk bottle.

*Returnable glass milk bottles bring the customer back into the store for repeat sales — and 65% of housewives prefer store-purchased milk in glass bottles.*

**THATCHER GLASS**

**MANUFACTURING COMPANY, INC.**
**ELMIRA, NEW YORK**



Equipment such as this clarifier unit is well protected against corrosion when finished with new acid and alkali resistant enamels. Highly specialized finishes are required for this use.

teristics of good washability and durability also make these types of paints preferable. Where conditions are more nearly normal, egg shell or satin finishes may be used on ceilings.

*Equipment*—New acid and alkali resistant enamels are recommended for most types of equipment, including processing vats and tanks, pasteurizing equipment, cleaning apparatus and conveyor. These finishes are fast-drying and furnish a durable coating that withstands to a marked degree the destructive action of detergent solutions. In some instances, alkali and moisture resistant aluminum paints serve equally as well. Too, on pipe lines, synthetic fast-drying enamels with a high gloss finish are frequently used.

*Planned Use of Color*—An increasing number of dairy plants have found it worthwhile to adopt a planned color scheme. This not only makes for a more attractive plant atmosphere but also it gives color an opportunity to perform specific functions.

Color produces definite psychological reactions. Colors derived from red, for instance create the impression of "warmth." Yellow seems to "advance" toward the eye. Colors derived from blue produce a feeling of "coolness" and also have a "receding" effect. Use of light, "cool," colors produce a feeling of airy spaciousness. "Warm" colors give a pleasant effect where natural sunlight is absent.

In keeping with the objective of wholesome cleanliness as aforementioned, light, clear colors should be the objective of the planned color program for the dairy plant.

The simplest color scheme employs the darkest color for the floor, a lighter color for the walls and creme or ivory on the ceiling. Where a dado is used this is usually finished in a darker shade of the color used on the upper portion of the wall.

A light shade of gray is quite practical for equipment, although brighter color treatment for machines is often used. An accent note can be achieved by using a contrasting color for trim.

Color plays an import role in plant safety. A decrease in personal injuries as great as 40 per cent has been reported following a modern color job. The significance of color coding as a safety factor has been recognized by leading safety authorities and the American Standards Association has published a complete Safety Color Code for marking physical hazards.

The code uses red as the basic color for the identification of fire protection equipment and apparatus, also to designate "danger" and "stop." Yellow is the basic color for indicating "caution" and for marking physical hazards, such as striking against, stumbling, falling, tripping, and caught in between. Green is the basic color for marking the location of safety and first aid equipment.

The identification of the contents of pipes by means of a color code is also recommended by the National Safety Council. Red is recommended for fire protection equipment, yellow or orange for dangerous pipes such as high pressure air or water lines, and those carrying steam, gas, acids, etc. Blue or green is recommended for safe pipes, such as domestic and process water at normal temperatures and pressure, hot water for toilet facilities, medium air pressure and chemical liquids.

Although some plants paint the full length of all piping with an identifying color, a better appearing plant results if pipes are painted the same color as the adjoining wall or ceiling, with identification noted at various points along the line. The point at which the line enters and leaves a room or department and at valves or connections are good places for the identifying color. A band eight inches long is usually sufficient; however, in larger size pipes the length of band should be at least equal to the diameter of the pipe.

Bottle cleaning equipment requires finishes that will resist moisture condensation and cleaning solutions, and which will withstand frequent cleaning.

Lighting is of utmost importance to the planned use of color. Paint cannot overcome the handicap of poor light, but proper painting will enable you to get the greatest benefit from good lighting.

Color is considerably altered by artificial light. Under fluorescent rays, for example, a "cool" yellow may appear to have a greenish cast. Whatever your color preference may be, to get the maximum in good results, choose your colors under the kind of light in which they ultimately will be used.

For milk processing tanks, white or light colored finishes may be used. Acid and alkali resistant enamels or aluminum paint afford good durability.



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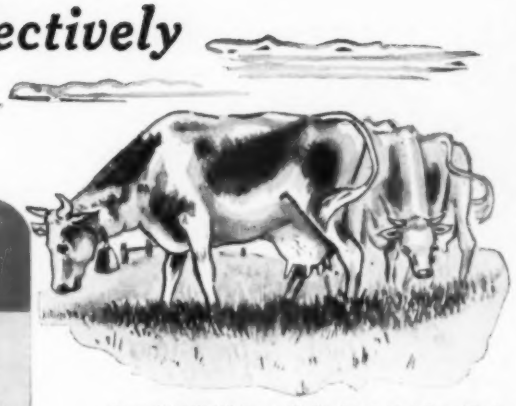
# *NOW... Filter More Effectively at Higher Volume.....*

**with**

# DAMROW

## *Stainless Steel*

## COLD MILK FILTERS



New DAMROW Type JS Model 4 Stainless Steel Filter. Capacity, 5,000 lbs. per hour. Other models: Type FS, 10,000 lbs.; Type AS, 15,000 to 25,000 lbs. capacity. Also available in dual unit for larger capacities.

You get your daily "take" into production faster — and cleaner—with DAMROW COLD MILK FILTERS at your receiving line. A DAMROW Stainless Steel Filter with its Direct Bottom Outlet handles a greater volume of milk per hour, taking out all the impurities immediately, before these impurities may be dissolved or made un-filterable in heating and agitating later. That's why health authorities suggest the Cold Milk Filter at the intake.

### *Time-Saving Sanitation*

In addition to greater volume — capacities from 5,000 to 25,000 lbs. per hour and higher — the DAMROW provides easier sanitation. Because of the new streamlined design and all Stainless Steel construction, and the direct bottom outlet, it can be more thoroughly and quickly flushed and cleaned for time-saving effective daily sanitation. Filter units are simple to handle. Even the exterior design and smooth stainless steel legs aid in easier sanitation.

SPEED UP your own milk filtration, and add greater protection to milk quality — with a new DAMROW Stainless Steel COLD MILK FILTER. PROMPT DELIVERIES on any model. Check the coupon for details.

**DAMROW**

**COMPLETE EQUIPMENT FOR THE DAIRY INDUSTRY**

*Damrow Brothers Company*

204 Western Ave., Fond du Lac, Wisconsin

Please send information on the new Damrow Cold Milk Filter. Capacity about.....lbs. per hour.

Firm.....

Address.....

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# PLANTING and PUBLIC RELATIONS

**The Outside Is The Aspect of Your Company Most Often Seen By The Public — Attractive Grounds Can Help Develop Good Relations**

*By* **STERLING MYRICK**

HOW ARE YOU? HOW IS business? How are all your relations? These cheery questions are more than a flippant greeting. Chances are that if your relations are poorly, neither you nor your business have the bounce and vigor that you can enjoy.

When we speak of relations, we are not talking about your cousins and aunts or your wife's folks, but about your relations with the public, including your employees, the people you meet in business and the citizens of your community.

As you know, many successful operators large and small in all branches of industry and commerce are spending important money and careful thought on creating and maintaining friendly, co-operative and loyal attitudes on the part of their employees, business associates and communities. These companies are not spending carelessly or in a light attempt to be "jolly good fellows." They are doing it because it has been proved that money spent intelligently and effectively in promoting good relations is an investment that pays off in troubles avoided and advantages gained.

Every concern, yours included, needs the continued co-operation, support and loyalty of its employees for obvious reasons. The goodwill of businessmen and other groups with whom you deal and associate is likewise of recognized value. The goodwill of the general public which comprises your town or community is not perhaps such an apparent or easily definable force, but it is vitally important and valuable, none the less.

### We Live By Impressions

Public opinion is one of the most powerful forces in our society. It is to your advantage to make sure that in your own community public opinion is not against you and that in times of stress, when you need public support, you will find that it is for you. In general, the reaction of the public to you and your company is the sum of their responses to the impressions which you make on each individual. Most of us base our impressions on what we can see and hear. That aspect of your company which is seen most often by the most people is its outside. The exteriors are what your employees see first when they approach your place of business in the morning. Businessmen and salesmen get their first impression of your company from what they see as they drive up and walk in. Most of the people that live in your community never see any more of your plant than the outside and base their opinions on what they see of your plant from the street. That is why one of the most effective ways to the achievement of first-class public relations is by the attractive development of the exteriors of your buildings and their sites.

### Planning Necessary

Like any other programs which succeed, a successful site development program is based, first of all, on careful thought and a survey of your operations and needs and on careful planning to meet these requirements adequately and economically. The basis of a good program is a sound plan. A proper plan suited to your needs may be simple or in considerable extent and detail depending upon the extent and complexity of your program. A plan is more than just a guide to construction or a record of work done. It is a means for compiling and considering ideas, for viewing a problem in its entirety, for studying and changing and arriving at reasonable and integrated solutions for the many related problems involved. It pays to have competent and technical advice in the different fields which your problems embrace.

### Efficiency and Convenience

In most important cities there are men who make a business of site planning. They may be landscape architects, land planning consultants, engineers, or architects. The larger nurseries and some general contractors and engineering companies often have men on their staffs who can do a good job of site planning. A good planner will acquaint himself with your problems and

**This Arizona milk plant with its pleasant lawns and graceful trees is a source of pride to the community. Good planning combines beauty and efficiency.**

*Today's Top Profit Producers for Dairies Everywhere*

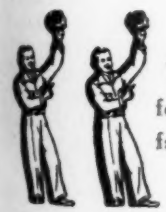
# Smith-Lee "CELLOPHANE" HOODS

**ONE ROLL HOODS**
**10,000 BOTTLES**

**FREE Advertising-Merchandising helps**

Newspaper advertising mats and radio scripts are supplied to all users of "Cellophane" Hooding. This complete selling plan helps you build bigger routes and profits with "Cellophane" Hoods.

*For Full Information, Write Today!*
*No obligation, of course.*



**TWICE CAPPED—**
**TWICE PROTECTED**
for DOUBLE Customer Satisfaction at lowest Cost Per Bottle

"Cellophane" Hoods gain and hold customer preference with *twice the safety* of ordinary packaging methods. Here's fresh, sparkling DOUBLE PROTECTION you can see!

"Cellophane" Hoods cover the inner cap, the pouring lip, the entire finger-grip area! They're weatherproof, tamper-proof . . . yet easy to remove with a snap of the tape, leaving the inner cap as a reseal.

"Cellophane" Hoods are the tops in modern milk packaging. They stamp you as the dairy offering DOUBLE PROTECTION and DOUBLE ASSURANCE of a safer, better milk.

**"Cellophane" Hoods Save Manufacturer's Profit!**

High-speed Smith-Lee Hooding Machines manufacture and apply "Cellophane" Hoods in ONE operation at the rate of 25 to 80 bottles per minute. "Cellophane" stores by the roll, saves premium space, enables you to buy at quantity discounts.

**Smith-Lee HOODS**

*PACKAGE YOUR MILK FOR GREATER PROFITS*

**CAP HEADQUARTERS**

SMITH-LEE CO., INC. ONEIDA, N. Y.

help you solve them with a plan that will embrace efficiency and convenience of use, beauty and attractiveness, economy of execution and reasonable maintenance costs. The completed plan will serve as a guide for the execution of the work, as a basis for securing bids and making contracts and as a means of budgeting your development program.

The elements of a successful plan for a plant such as most milk plants are, are not too complex. The basic elements and the first to be considered usually are the utilities such as roads and walks, parking areas, transmission lines and other services. Obviously the road systems should be designed to afford a convenient and free flow of traffic of all kinds which will interfere as little as possible with itself or with the other outside operations or services. Roads should be designed to accommodate different kinds of traffic, if need be, such, as heavy trucks hauling products to and from your plant and the light cars of employees and people coming on business. Adequate parking space is, of course, part and parcel of your road system. There must be ample room to accommodate trucks at your loading platform without obstructing the flow of traffic and there must be comfortable and convenient parking locations for customers and callers.

### Make Footwalks Natural

Footwalks to the several entrances should be located reasonably and conveniently so that people will follow them naturally as the most direct and easy ways to their objectives and will feel no urge to cut across lots to their destination. With some care, these roads and walks can be given alignments which are both graceful and efficient and can be constructed of materials which are attractive as well as serviceable.

Transmission lines are a utility which often mar an otherwise attractive setting. Sometimes they can be brought into the plant from rear areas which are not in the public eye. If this is not possible, underground cables or conduits are often feasible. Floodlighting facilities are often located on the grounds about the newer buildings and need to be given consideration in the site plan.

Integrated with and complimenting these functional items are the phases of the development whose principal purpose is to make it attractive. The most important of these elements are the lawns and the planting of trees and plant masses on the grounds. The lawn areas, which generally comprise the major portion of grounds of any extent, are usually sown to grass to provide a cover which stabilizes the soil,

**The National Cash Register Company is a firm believer in the values of well kept grounds. The dignified treatment shown here is a part of a comprehensive plan that embraces the entire plant.**

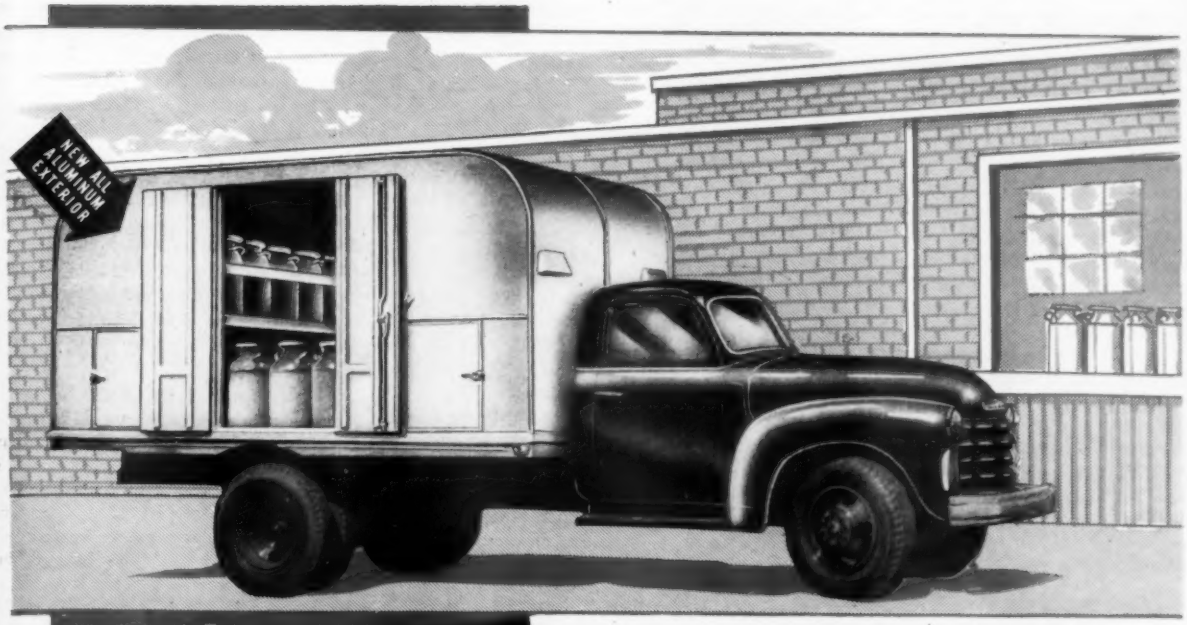
is easy to maintain and is restful and attractive to the eye. The plantings consist of trees, shrubs and vines located so as to screen objectional views and frame and enhance desirable features, create attractive and refreshing patterns of light and shade, integrate buildings and other structures with the site and to afford interest and beauty in themselves.

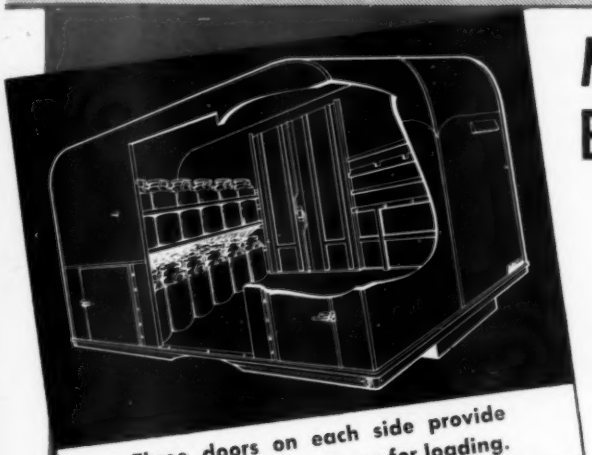
The successful development of lawns and planting, obviously, requires the counsel of persons familiar with the requirements and characteristics of plants and with their use to create the desired effects under varying situations and conditions. On large scale operations, which involve the expenditure of considerable sums of money and involve important and difficult problems, it is worthwhile to retain the services of a professional landscape architect to prepare plans and specifications. On more simple and limited projects, the advice of nurserymen and landscape contractors can be adequate. In any case, one must be sure that his advisor, whether a professional technician or a businessman, is competent, honest and possessed of enough vision and understanding to grasp your problems and to look at the project through your eyes as well as his own.

In constructing lawns and planted areas the fundamental considerations are the grading of the land and the providing of fertile soil of adequate depth to insure good growing conditions for the plants which are to be supported by it. The ground near the building should always be graded to contours which cause surface water to drain away from the building, rather than toward it. This seemingly obvious and simple principal is sometimes ignored with troublesome and costly consequences. If considerable grading of the land is required, the existing topsoil or loam, if any, is usually stripped by means of bulldozers or other equipment and stacked at convenient locations on the site. The subsoil is then brought to the required contour or sub-grade at elevations usually uniformly six to eight inches below the proposed finish grade. The salvaged loam is then spread over the sub-grade to the required depth. Six or eight inches of loam is generally adequate for lawn areas. For areas to be planted to shrubs and evergreens, fifteen or eighteen inches is the standard depth. In tree pits for large trees, two or three feet of loam is often specified.

After the loam is in place, it should be treated to create a proper condition of soil fertility, texture and acidity. One way to assure a successful soil preparation program is to send samples of the soil to your state experiment station or agricultural college for analysis. Such institutions are staffed with men who are experienced in this work. They will analyze your soils and recommend a program to put them in shape, which will include fertilizing, liming, or other phases of soil preparation.

In the selection of plants which will thrive under the existing conditions and which will create the effect which is wanted, so many factors must be con-



Three doors on each side provide access to all floor space for loading.

# MILLINGTON MILK TRUCK BODIES *Score* on every count

- ✔ Lower Priced
- ✔ Prompt Deliveries
- ✔ Lightens Work
- ✔ Lighter Weight
- ✔ Greater Capacity
- ✔ Completely Insulated

Yes, performance throughout the industry has proven that for farm milk pick-up, Millington Insulated Milk Truck Bodies score highest on every count. ● Lower Priced and Better Built — a lower investment. ● Lighter weight reduces operating costs, tire wear, and general maintenance. ● Prompt Deliveries — Standard models available within two weeks' time. ● Greater capacity — Double your pay load by double decking. ● Lightens work — It is necessary to enter body but once each trip, to load deck. ● Completely insulated.— Entire body, including doors, completely insulated with scientifically improved, heat reflecting aluminum foil. Yes, your best bet is a durably built Millington Body with either tempered masonite or aluminum exterior.

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sidered that the need for advice from a trained horticulturist is evident. First of all, the plants must be of species which are hardy in your climate. Many plants which thrive and are attractive in their proper temperature zones will not thrive or even survive north of those zones. Plants which require a moist soil will not thrive in an excessively dry soil condition and vice versa. Many plants which do well in the suburbs or in the country will decline and die in the sooty, gaseous atmosphere of the city. Some plants require full sun, others do well in partial shade. All these things must be reckoned with if a planting is to be successful, for no plant, however great its potential beauties may be, can be anything but disappointing in a sickly or dying condition. Then the ultimate sizes of plants must be considered, in order that they may not eventually outgrow their space and their place in the design.

### Can Get Year Round Effect

Where a year round effect is needed, plants with evergreen foliage should be used. Skill is required in selecting plants whose foliage produces an interesting effect of contrasting textures without having a contrast that is so obvious and sharp as to be displeasing. Plants which flower at different seasons can be used to give color when it is desired. Some plants have leaves which turn to brilliant colors in the fall when the flowers have all gone by. The handling and planting of the plant material on the job is, also, a matter that demands the supervision by a man who knows his business.

After the planting of trees, shrubs and evergreens is completed and any other necessary site improvement work has been done, it is time to seed the lawn areas. In the northern states the best months of the year for planting trees and shrubs are April, May and October. The best seasons for sowing grass seed are August 15 to September 15, and early April to early May. The most important factor in a good lawn is a thorough and complete preparation of the soil. Then it is raked smooth to approximate finish grade and the stones, sticks and other rubbish raked out of it. Next it is rolled with a lawn roller and any low spots which appear are brought to a finish grade with added loam. The whole area is then scarified and the seed spread evenly over the area after which it is covered lightly by raking or dragging and the whole area is given a final rolling. Moisture and warmth are what it takes for a successful germination of grass seed. Temperature cannot be controlled, but if the area seeded is not too great it can be kept moist by watering hose. It is important that the seed used be a mixture suited to the climatic and soil conditions of the locality.

Immediately following completion of the work of lawns and planting the work of maintenance should commence. A planting job may be well and thoroughly executed, but if it does not have proper maintenance it cannot be successful for long. Maintenance of lawn areas includes mowing, watering, weeding and reseeding bare patches as they may appear. The lawns should be fertilized each spring and fall with a proper commercial fertilizer. Maintenance of trees and shrubs includes pruning, occasional fertilizing and cultivating, spraying for insect pests, replacing an occasional dead or sickly plant, keeping the beds neatly edged and otherwise maintaining the premises in a shipshape condition. Maintenance should be in charge of a patient man who likes plants and enjoys landscape work and gardening, and who has adequate and horticultural knowledge.

### The Cows Are Trying

If milk supplies are short it isn't because the cows aren't in there with the old college try. Production statistics for April show a New Jersey average of 590 pounds of milk per cow, second highest figure on record.

In spite of cooperation from the bovine element farmers found little incentive to build up over-all production. Milk production on farms in the United States was estimated at 10 billion pounds, 4 per cent lower than April 1947, smallest production for the month since 1941. Per capita production was 2.29 pounds, third lowest in 18 years of record.

The business of getting landscape work done can be handled in several ways. If one knows a landscape contractor or a nurseryman whose competence and integrity are beyond question, the best way to get the most for the money is to let him do the work on a cost plus a fixed percentage basis. If no such party is available, bids may be secured from three or four reputable firms and the job let on a contract basis. As a basis for estimating and letting such contracts, plans and specifications in sufficient detail are requisite. It is not always good practice to award the contract to the lowest bidder. One cannot go far wrong in awarding the contract to the bidder whose bid comes closest to the average of those submitted, provided he is known to be a responsible party. If a professional landscape architect or consultant has been retained to prepare plans and specifications, it is usually worthwhile to pay him to supervise the execution of the work by the contractor. If no such supervision is available, then the owner is dependent upon the competence and honesty of the contractor. If the contractor is lacking in either skill or integrity, the owner is apt to find himself ultimately getting less than he has paid for. Most nurserymen, like most people, are honest and if they have been operating successfully for a considerable number of years, can be assumed to know their business.

One of the first industrial leaders to appreciate the effectiveness of adequate site development and landscape planting as a means of improving relations with the public and with employees was the National Cash Register Company, Dayton, Ohio. The president of that company, Mr. S. C. Allyn, says, "men and women do better work and are happier in attractive surroundings. We have never deviated from the policy of beautifying the plant area, because experience has shown that money spent in this way is a profitable investment." One can look at the National Cash Register plant and many another industrial concern which has later followed the same policy to see how attractive and effective is the result when site development and landscaping are thoughtfully planned, properly executed and then given continued adequate maintenance.

### Pride and Loyalty

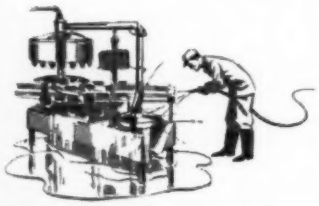
The employee approaching such an establishment in the morning to start his day's work gets a lift which conscously or unconsciously boosts his morale and adds to his loyalty and will to do. The approaching salesman or customer is impressed with the neatness and beauty which imply, "Here is a concern who knows how to do things right and has the means and the will to do them as they should be done." The citizens who may have never been inside the plant has a sense of pride, as he passes, in having such a handsome business property in his town. He will point to it with pride as he shows the town to friends and relatives and to out-of-town business acquaintances. In his thinking he will be for the company rather than against it and will add his individual bit to the creation of a favorable public opinion in the community.

All these things are well worth-while. It is because they are worth-while that prosperous and progressive companies are following this policy of spending important money for first-class site improvement and planting programs.

*For those who want the finest in filling and capping, the Model K is the ultimate in efficiency and accurate filling control.*

perfection *has no rival*

## *you'll be proud to own the NEW GRA-VAC Model K!*



***Just wash—no hard scrubbing needed.*** *Every part is easily accessible. Valves are quickly and completely disassembled. Exhauster pipes come off with simple "twist-of-the-wrist." Machine is completely self-draining and quick-drying.*

**Here is equipment that identifies the outstanding, forward-looking dairy! The new all-stainless Gra-Vac Model K reaches striking new highs in eye appeal —*and in production.***

**The GRA-VAC filling principle has been refined by adding a simpler diaphragm-type filling valve—an exclusive Cherry-Burrell feature. Here's protection against milk flowing into defective bottles. Filling is uniform every time . . . no waste or loss of milk. The GRA-VAC Model K stays super-sanitary, for there are no hard-to-clean parts. Exterior, and all milk contact surfaces, are *permanently* corrosion proof. Cleaning and sterilizing are surprisingly simple . . . a clean-up man's dream. Ask your Cherry-Burrell Representative about the GRA-VAC Model K. See how it fits into your present needs or future plans.**

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FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

*trendmaker in a great industry*

# DDT IS STILL THE ANSWER

**Successful Sealtest Program of Insect and Rodent Control Relies Heavily on Famous Insecticide in Constant War on Dairy Plant Pests**

*By* **DR. EDWARD M. SEARLES**
***Sealtest, Inc.***

IT IS NOW TWO YEARS since the Insect and Rodent Prevention program under Sealtest was introduced by National Dairy. During this period company personnel have been trained in the proper use of DDT. Spraying equipment, carefully selected for the purpose of applying DDT effectively and safely, has been made generally available. At present the number of insects in the plants of National Dairy has been reduced to a very low figure.

This does not mean that no insects may be found in any of the company plants. Insects are much too prevalent everywhere and are attracted too strongly by the odors and tastes of dairy products to make their complete prevention, even with a miracle insecticide, possible in such a short time.

### Difficult to Stop Insects

This is particularly true when traffic in used containers, such as milk cases, makes it easy for the insect pests of commerce to find their way directly into plants. It is doubtful that an insecticide so powerful that it will completely exclude all insects, will be produced in the near future.

There is still much to do before all plants will be completely free from insects. This will mean unrelenting attention to the spraying program and unflagging activity in the primary effort to keep them out.

Many new insecticides have been introduced during the last few years. Some of these have distinct values in one way or another. For our particular purpose they have all been considered carefully and, for the present at least, discarded. Some produce odors. Some are unsightly on the walls and equipment. Some have no residual action and are expensive in time and material. Some are dangerously poisonous to the operator.

DDT in the proper form seems to answer all the requirements. It is colorless, odorless, non-volatile, non-caustic to fabrics and metals, non-injurious to personnel, long lasting and very potent as an insecticide to practically all domestic insects, even in very small amounts.

It is quite true that DDT may be toxic to warm blooded animals as well as to insects. It is not as poisonous as sodium flouride and some other insecticides which have been used for years about food processing plants. When used according to directions DDT is without hazard either to personnel or to products.

This is of little consequence however. DDT, even if it were not toxic to warm blooded animals, would be an adulterant and must be kept out of foods.

At present there is no law prohibiting the use of DDT in a Dairy plant. DDT would be an adulterant in any food material in accordance with Section 402A of the Food, Drug and Cosmetic Act, so it must be kept out of foods and out of containers used for holding foods. It is an absolute rule that DDT may not be introduced into a food product in any manner or for any purpose. Similarly DDT may not be used in a container used for holding food products.

**Rules of the Roach**

1. Spray with DDT-kerosene residual spray every three months.
2. Spray only the places where insects go to hide, roost, or rest.
3. Use every precaution to keep the spray away from food products and out of containers used for holding food products.
4. Buy material from approved vendors.

DDT in the 5% solution may not be used as a space spray. It is not possible to control space sprays. The mist settling from a space spray falls into and onto everything in its path. In addition, DDT kills insects too slowly for effective use alone in space sprays.

### Effective as Residual Spray

Since DDT is most useful as a residual spray, there is no advantage in using it as a space spray. Used to its best advantage, DDT should be applied only to the places where insects go to rest or to roost or hide. Here it will remain, if properly applied in the right form, and kill domestic insects for an almost unbelievably long period of time.

5% DDT in odorless kerosene has been found the most satisfactory form for use in a dairy plant. Kerosene will stick to and spread over any surface except one wet with water. Kerosene evaporates quickly and leaves DDT crystals which, when once dry, resist any reasonable amount of washing. The places where insects go to hide, or rest or roost are not ordinarily the places which are scrubbed frequently.

The knapsack type sprayer manufactured by the Lofstrand Company, has been found, to date, most satisfactory for the application of the kerosene solution of DDT. It is of rugged construction. There are less apt to be accidents. When used with ordinary caution it will not contaminate foods with DDT.

### Spray Clean Surfaces

The first rule of spraying is to be sure that the surfaces to be sprayed are clean. Do not spray and then try to clean.

It is not necessary to spray surfaces that are washed every day. Insects seldom hide or rest or roost on such surfaces. In any case, if possible, permit the sprayed areas to remain untouched for 3 or 4 days after spraying. At the end of this time the DDT will have crystallized out of solution and will resist washing and scrubbing. There is usually enough to kill roaches and flies even when no visible DDT is left.

It is not possible to apply too much spray on at one time. After a certain amount it only runs off. The best rule is to spray until the surface glistens. That is all the surface will hold.

When the 5% solution of DDT in odorless kerosene has been properly applied on clean surfaces and allowed to dry completely in the places where domestic insects go to roost, or hide, or rest, it may be depended upon to kill practically every insect which visits those places for the next several months. Just to be on the safe side however, it is better to repeat the treatment every three months.

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**and you play safe with your milk supply when you recommend the right size**

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# RAPID-FLO FILTER DISKS

**Both are J & J Fibre-Bonded**

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EVERY POUND OF MILK IS VITAL

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Johnson & Johnson
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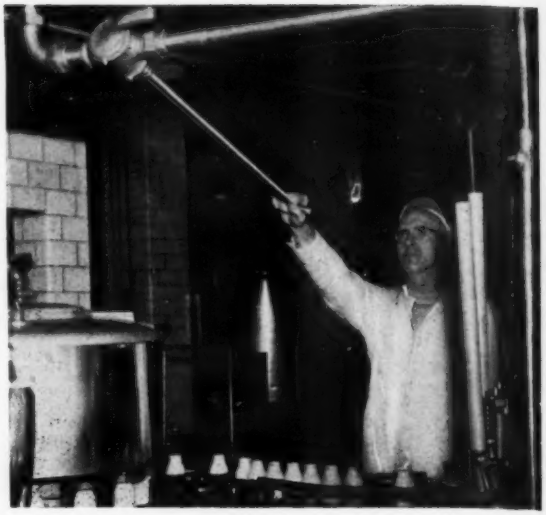
# SANITARY FITTINGS AND VALVES



Valve extension developed at Sheffields eliminates hazards and promotes efficiency of operation.

Extension was designed and built by William Plezer, coppersmith, and John Lever, superintendent of the Company's 57th Street plant.

VALVES HAVE BEEN a blessing to the dairy industry. However, like many another blessing the "durn things" can be aggravating when they don't work as they should or when they are hard to reach.

Most valve trouble is self wrought; poor maintenance resulting in scars and nicks that cause leakage. Too often poor planning in plant layout locates valves in inaccessible or awkward places. This latter condition not only causes a waste of time but also is likely to create a safety hazard. Fortunately modern dairy plant design is gradually eliminating ill placed valves. Many plants, however, are still in the throes of modernization or have not yet begun such a program.

Sheffield Farms plant men have recently come up with a first rate solution to their awkwardly placed valve problem. A valve extension handle made out of stainless steel extends far enough from the valve to allow the operator to manipulate the valve without recourse to a ladder or platform.

The device, simple and effective was developed by John Lever, superintendent of Sheffield's 57th Street plant, and William Plezer, a coppersmith.

The problem that prompted the development of the extension is a common one. A wing nut attached to the bottom of a valve in an overhead pipe had to be tightened in order to keep the valve seated properly. The operator had to adjust the nut in order to close the valve, an operation that was both time consuming and inefficient.

Some attempt had been made to manipulate the wing nut and the valve by means of a long pole with a hook arrangement attached to one end. This device eliminated the safety hazard: the operator no longer had to stand on a stool, but it did not prove a satisfactory method of closing or open-

# "Watch the profit!"

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● **Carry 50% more cases per truck**—You save money on delivery costs with Handi-Squares. Each of your trucks can now carry up to 50% more cases per load. Or you can use the extra space to carry more butter, eggs and cheese. Drivers like the square, compact shape and light weight of Handi-Squares. Easier and quicker handling means more *selling* time to develop their routes.

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You, your customers and your dealers are all in the profit picture with Duraglas Handi-Square bottles! *Consumers* prefer glass bottles for milk—and they prefer Squares 9-to-1 over rounds. *Dealers* know homemakers prefer glass—and with Handi-Squares their coolers can hold up to 50% more bottles per delivery—they can sell more milk!

YOU profit from the unequaled economy of the returnable bottle . . . *plus* the greater operating efficiency brought by Handi-Square bottles. *Call on us for details.*

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ing the valve or adjusting the wing nut. Furthermore, the wear and tear on the valve was heavy. Operators occasionally misjudged or grew careless with the result that nicks and the inevitable leakage began to appear.

The extension designed by Mr. Lever and Mr. Pelzer enables the operator to open or close the valve and eliminates the wing nut. A spring that thrusts against a cross pin in the extension handle exerts enough pressure on valve to keep it properly seated so that it neither jams nor leaks. According to Sheffield officials, the device is working out in fine fashion. The safety hazard has been removed, the operation of the valve has been simplified to a twist of the wrist, and finger tip control of the milk flow through the pipes has been established.

Other plants have reported valve troubles of one kind or another. Particularly in the case of separators and clarfiers is there a possibility of closure difficulty developing. During the war, when a shortage of skilled help brought many young people unversed in the nature of dairy plant equipment, a good deal of damage to delicate parts was sustained. Some managers have described valves and parts of valves being tossed from hand to hand in the process cleaning. As one would expect many valves were dropped. Clarifier discs were often misplaced or reassembled incorrectly. In too many cases these poor practices that grew out of wartime pressure have carried over into peacetime operation.

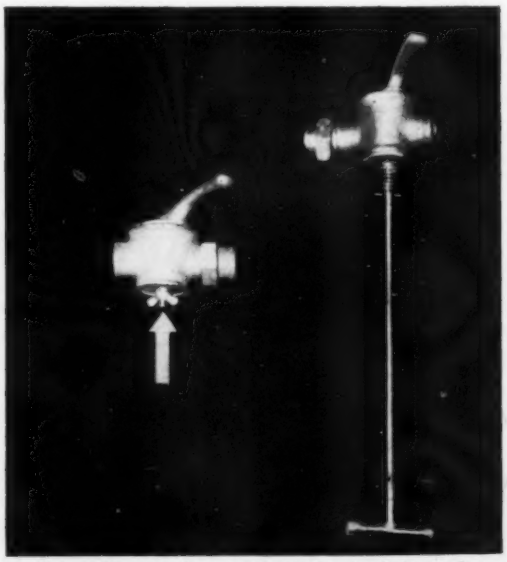
Mr. John Perry of Sealtest, Inc. has devoted a great deal of time and thought to this problem of proper cleaning techniques and the equipment necessary to do a good job. Both pipe and sanitary fittings present a problem in handling and cleaning. Mr. Perry designed cleaning devices for both types of fixtures. For bringing the pipe to the cleaning unit Mr. Perry developed a rack mounted on wheels. The short arms of the rack are covered with neoprene in order to prevent scratching. Variation in distances between arms takes care of variable lengths of pipe.

Sanitary fittings required a somewhat different treatment unit. The old method of collecting sanitary fittings and dumping them into a cleaning vat, scrubbing them and then placing them in a vat of rinsing water was not only time consuming and fatiguing but did not result in high grade cleaning. The sanitary fittings cleaner, as designed by Mr. Perry, has the appearance of a sink with drain boards on either side. The fittings are brought to the cleaner in a wheeled tray or "buggy" the trays of which are lined with rubber. The cleaner has two brushes driven by a small motor which causes them to rotate in opposite directions. The operator takes a fitting from the fitting "buggy" and places it over one of the brushes. Since the two brushes are so placed that their bristles mesh this allows fitting to be cleaned inside and outside at the same time. Above the brushes is a perforated pipe through which cleaning solution is delivered to the brushes and on the fitting that is being cleaned.

When the scrubbing operation is finished the workman presses a conveniently placed valve pedal with his foot which produces a spray of clean, properly heated rinse water. This spray is located over the rinsing section of the cleaner and the water is drained off immediately after using so that each fitting is rinsed in fresh, clean water. The fitting is then placed on the drain board and allowed to drain. The general handiness of this arrangement is appreciated by plant workmen who have had the opportunity to use it. No lost motion is involved. An economy of water is realized. The entire operation is speeded up and probably most important of all an efficient, complete washing job is achieved. The sanitary fittings cleaner can be used on almost any type of fitting provided that the fitting has a minimum diameter of one inch. If a smaller diameter is encountered, special brushes for that type of fitting must be used.

The work which Mr. Perry has been doing and the extension device developed by Mr. Lever and Mr. Pelzer are doubly valuable. Not only have they resulted in more efficient plant operation and contributed to the industry's ability to put out a superior product at a price less than the all foods average but, especially in the case of the Sheffield device, do they reflect a healthy interest on the part of men engaged in the industry.

**Elements of the plant-made extension valve are shown here. Pressure to seat the valve is supplied by spring.**



**Cooperation of plant personnel in developing valve extension was encouraging feature of the project.**



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**Back, sides, and front of the truck — all tell pedestrians and drivers of Sheffield Farms' active interest in industrial and public safety. Each routeman will have the chance to drive the truck one week on his route.**

# *Every Truck* CAN BE A SAFETY TRUCK

**Sheffield Farms Carefully Planned Safe Driving Campaign Is Spearheaded by White "Safety Trucks" — Trucks Will Appear on Each Route for Period of One Week**

***By* HERB SAAL**

*From the Traveler's Insurance Company comes the annual box score of traffic accidents. It is not a pretty picture—32,500 dead, 1,365,000 injured. Speed was the number one killer accounting for nearly 45 per cent of the total deaths. Two out of every three accidents were the result of mistakes by drivers. Most of the crashes occurred on open highways in clear weather. And saddest of all, four thousand of the victims were children under 15 years of age. These sorry figures give added significance to Mr. Saal's fine article on the safe driving program currently in operation at Sheffield Farms in New York.*

•

EVERY 26 SECONDS AN AUTOMOBILE hurts someone in the United States. Every five minutes a person of sound health is crippled for life in a vehicle accident. The National Safety Council says that motor accidents kill or injure every 25 seconds of every day. Four empty slabs in the morgue are filled every hour because of a motor mishap.

The manufacturer of one of the newest automobiles with the most modern engineering and safety features tacitly admits that all the advances in safety engineering in automobiles will not prevent accidents. He says, in an advertisement in a recent issue of Life magazine, "Of course, no car can be made so safe that reckless, careless drivers won't pay a penalty."

Thus he implies that the important factor in the large majority of automobile accidents is the man behind the wheel. Stacks of evidence exist to substantiate this implication.

Instances in which the accident can be laid to mechanical failure are becoming less and less frequent. Usually it is the driver of one of the vehicles involved in the accident who is at fault.

In order to point up the need for safe driving habits among Sheffield Farms people and to make the general public more aware of Sheffield's efforts in the direction of safety, white safety trucks will soon be seen on the streets in all areas where Sheffield products are distributed.

The safety truck will show Sheffield customers and their neighbors that the Sheffield man brings milk to their doors in the safest way possible.

Two white trucks—one Wholesale and one Home Service—will operate in each of our four zones in Metropolitan

A wholesale as well as a Home Service vehicle in each of the four zones and in the Maplehurst, Connecticut, area will carry the Company's message of safety to the public.

New York and in Maplehurst, Connecticut. Each route man will drive the truck one week to help him tell the public that he and his Company are trying to cooperate with them to protect their lives and property from damage by Sheffield vehicles.

Fortunately, in 1947 few Sheffield men were involved in vehicle accidents resulting in serious injury to themselves and consequent loss of income. This occurred despite the fact that there was no decline in the frequency of vehicle accidents in our Company in 1947.

The white trucks bearing their message of safety symbolize the whole Sheffield Farms safety program. The trucks are expected to act as a stimulant to the people in each of our branches to step up their own safety consciousness and turn in a better safety record.

In connection with this, Robert Vance, Sheffield Farms safety director, says, "We aim to better our safety record of 1947 which saw few drivers injured in accidents and to reduce the sums paid out to others because of damages suffered in collision with our vehicles. The best way to accomplish this is to drive and work with such care that accidents do not occur.

"As the white safety trucks rotate among the branches of the four zones and the Maplehurst branch, each route salesman will have the opportunity of serving his route one week with the safety truck, practicing safety and setting a good example. Meanwhile, I earnestly hope that all members of all branches will continue to strive for a no-accident record both in the vehicle and in the employee-injury fields. Sheffield Farms wants to see all men get on the safety team."

Everywhere the white safety truck goes, it will be a reminder to all who see it of the constant need for caution against unnecessary risks, dangerous to life and limb not only in driving but also in other work and after-work activities. It will be helpful in getting our safety message across to Sheffield people other than drivers. Mr. Vance explained, "It will be seen daily by pre-loaders, mechanics, garage, platform, and production personnel and remind them to practice and THINK safety for the good of all."

●

This truck, now a total wreck, was parked properly while the driver was making his deliveries. Another vehicle plowed into it from the rear, driving it into a car in front. Safe driving pays.

●

A moment of carelessness can bring untold misery both physical and financial to the accident victim.

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3000

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has made Dari-Rich the best known—fastest selling—of all chocolate flavored dairy drinks! "Stars Over Hollywood"—the top rated half-hour weekday show on any network! Car Cards! Newspapers! And plenty of free dealer tie-ups!

*Dari-Rich Quality*

has never let down! It's known to millions as the finest chocolate flavored drink possible to produce! And now is the time to tie-up with Dari-Rich and get your share of the coming hundred million dollar market for chocolate flavored dairy drinks!

# Free TEST!

**• Tell us to ship to you—charges prepaid—a case of 6 No. 10 Tins of Dari-Rich Syrup...Try it!—If not completely satisfied, return unused tins . . . shipping charges collect and we will cancel all charges!**

**MAIL *this* COUPON!**

TO BOWEY'S INC., 679 ORLEANS ST., CHICAGO 10, ILL.

• Send me one case of 6 No. 10 tins of Dari-Rich No. 2 Syrup at $9.25 I will make up a batch of chocolate flavored dairy drink—and if not completely satisfied I have the privilege of returning the unused tins collect, and you are to cancel all charges.

Signed_____

Street_____

City_____ State_____

(Offer expires JULY 31, 1948)

Bowey's Inc.

• 679 ORLEANS ST., CHICAGO 10, ILL. •
330 W. 42ND ST., NEW YORK 18, N. Y.
4368 DISTRICT BLVD., LOS ANGELES, CALIF.




XUM

The old and the new both have a place at Elmhurst. Here the shining steel of modern plant equipments vies with a splendid dapple grey for attention. The dairy maintains a stable of 137 horses.

# ELMHURST OF MONTREAL

CLOSE COOPERATION IS the lifeline of any progressive business concern. It can spell the difference between profit and loss, success or failure, for this very simple reason—cooperation—is the keyword at the Elmhurst Dairies, located on the outskirts of the city of Montreal, Quebec, Canada.

Starting over 65 years ago, the original Elmhurst delivery system consisted of one dog cart, that delivered the milk from two cows. Today, the delivery system consists of 44 trucks and 108 horse drawn wagons. The plant itself covers five acres and has an employee list of over 300 people.

In the Elmhurst stables are 137 horses. At the horse hospital a veterinarian is on continuous call. Each year, the Dairy enters several horses at various fairs, and expositions, usually coming away with the first or second prize, and sometimes with both. The harness shop is completely equipped to make not only the harness, but tarpaulins, horse blankets, and other necessary items as well.

In the wagon building shop, the company produces a wagon of their own design and patent, which, they say, carries the load father forward, making for easier drawing, and eliminates the usual body twisting when the driver unloads.

This body shop also rebuilds truck bodies, and, in conjunction with the paint department, can turn out equipment unexcelled by the best newest pieces delivered from manufacturers.

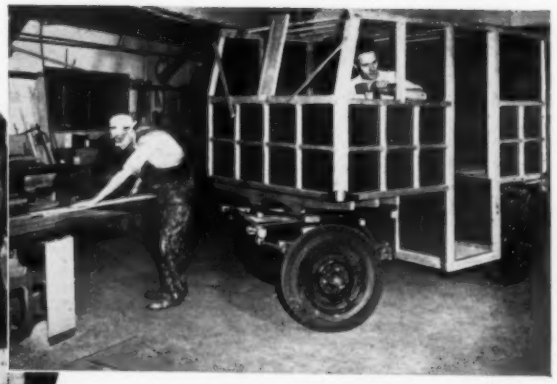
The shop smithy handles all of the iron work around the dairy besides shoeing the 137 horses.

In the garage itself a 24-hour maintenance service is in operation. The entire fleet of trucks is washed and polished every night. Each engine comes in for a complete overhauling at the 50,000 mile period. Tires are run for 30,000 miles, sent out to be recapped and put on for another similar mileage. This recapping is done twice, giving the company 90,000 miles of road service out of each tire before it is scrapped.

Public relations conscious, Elmhurst Dairy believes a well groomed horse and shining harness is worth its weight in gold to the lady of the house when she sees it stopped in front of her home. Milk is delivered over a 50 mile radius of the city of Montreal, yet not a single unit of the fleet is allowed on the streets unless it is freshly painted, washed and polished.

The company handles milk, cream, butter, eggs and ice cream, as well as cheese.

Sparkling equipment and beautiful animals are satisfying as well as good business in Montreal. This horse has won many prizes.



Self sustaining to an impressive degree the Elmhurst Dairy does much of its own repairing and manufacture. Shown here are views of the blacksmith shop and the body shop.

# by HUGH JARMAN

The raw milk arrives by railway, by suburban pick-up service, and by farmers' own delivery to the dairy. As the milk arrives, it goes immediately to the electrically operated scales, where it is weighed. A pint sample is taken from the weighed milk to go on to the laboratory, where it is subjected to bacteria count and sediment test.

The milk is then piped up to the clarification tanks then down to the regenerative heater, where it is heated to a temperature of 145 degrees and held there for 30 minutes. At the filling machine filled cases descend via a gravity conveyor system to the cold storage department. Shipping clerks fill the orders for the drivers, so that they will be ready for the following morning's delivery.

A favorite with the Elmhurst is their chocolate milk. This is made with pure powdered chocolate and sugar, and is an outlet for surplus milk.

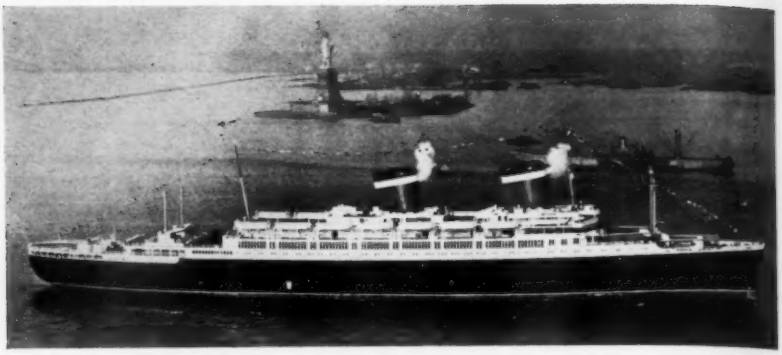
The bottle return system at Elmhurst is entirely automatic. When the driver unloads his wagon, the bottles proceed to the washer in the basement, where an electric eye detects all defects and automatically rejects the defective bottles. Then they pass by conveyor to the bottling floor, where a second inspection goes on, each bottle passing before a powerful light on its way to the bottler. Any bottle that does not come up to sanitary standards is pulled off the conveyor and returned for a second washing.

Immediately following the unloading of his wagon, the driver gives the shipping clerk his order slip, for the following day, knowing that his wagon will be loaded and waiting for him upon his arrival, to drive off the following day.

*(Please Turn to Page 95)*

Manufacturing and repairing Elmhurst crates keeps this craftsman busy. The plant employs over 300 people.

# MILK



With whistles blowing the AMERICA steams past the Statue of Liberty on the way to her Hudson River berth.

# SAILS ON THE AMERICA

*By* **NORMAN MYRICK**

EVERY THIRD WEDNESDAY of the month the S.S. America drops down the Hudson River, steams slowly through the narrows, and sticks her forefoot in the cold grey swells of the North Atlantic. Five days later the sparkling green of the "ould sod" slashes through the mists and the ship eases into her berth at Cobh (formerly Queenstown), Eire.

The America, twenty six thousand tons of steel and speed and luxury, is the queen of the nation's merchant fleet. Laid down in 1940 she was almost immediately pressed into war service. As the U.S.S. West Point she carried more than a half million troops to the scattered battle lines of a global war. More than five hundred thousand sea miles slid astern during the course of her troop carrying duties. With the end of hostilities she was reconverted to her peacetime role as the largest, fastest and most luxurious of the United States passenger liners. Last year under the command of Commodore Harry Manning she made seventeen voyages carrying upwards of thirty thousand passengers.

Fluid milk, handled in standard jugs, is kept in the cooler at 33° to 35° on board the vessel.

There is a grandeur and a pageantry surrounding the arrival and departure of a great ship. The soul of landsman and sailor alike must respond to the snapping pennants and the prospect of blue water under the bowsprit. For the six hundred and seventy-eight men and women who make up the staff of America, however, departures and arrivals are all in the day's work. There are courses to be set, boilers to be fired, staterooms to be maintained, and more than a thousand passengers to be fed.

The task of feeding and housekeeping on an ocean going vessel devolves upon the shoulders of the Chief Steward and the Chef. In the case of the America it is F. P. McGrath, Superintendent Steward and Otto Bismark, Chef, who are responsible for the daily problems of ordinary living aboard ship.

At sea as ashore, dairy products occupy a prominent place in the diet. When the America slips her mooring she carries more than twelve tons of dairy products in her coolers and storerooms. More than six hundred and fifty gallons of homogenized milk and fifteen hundred gallons of grade "A" and "B" are carried in the refrigerator boxes where they are held at temperatures ranging from 32° to 35°. Five hundred quarts of light and heavy cream, two hundred quarts of European cream and thirty quarts of sour cream are carried. The sour cream is handled in pint bottles while the European cream and domestic cream is handled in gallon cans and quart bottles respectively.

The kitchen Department on the America lists fifteen different milk and cream products carried by the ship including condensed, evaporated powdered, malted, and certified milk as well as the grades of cream and milk already mentioned.

Bulk milk is handled in standard 40 quart cans. If you will examine the picture of milk storage facilities that accompany this story you will be able to make out the Dairymen's League symbol on the cans. Homogenized milk comes in sealed gallon dispensing cans of a type especially designed for this service.

Handling such large quantities of milk and cream calls for a variety of efficient dispensing units. The America carries hand pump and electric pump devices for use with milk and cream. The electrical pumps are used on the homogenized milk. One gallon dispensing units are used for filling cream pitchers.

Storing and sanitation are a problem at sea just as they are problems on the beach. Storage problems are complicated, however, by the necessity of providing for the inevitable roll and pitch of a ship at sea. The America's staff takes care of this wrinkle in the storage difficulty by securing the cans in the refrigerating boxes with removable metal and wooden battens. When Neptune really goes on a rampage it is sometimes necessary to augment the battens with ropes.

As one would expect, exacting standards of cleanliness and sanitation prevail on this leader of the nation's passenger fleet. Equipment is carefully washed and sterilized to insure a good product for an extremely discriminating group of customers. The usual washing solutions are employed plus hot water, steam, and immersion above 180°.

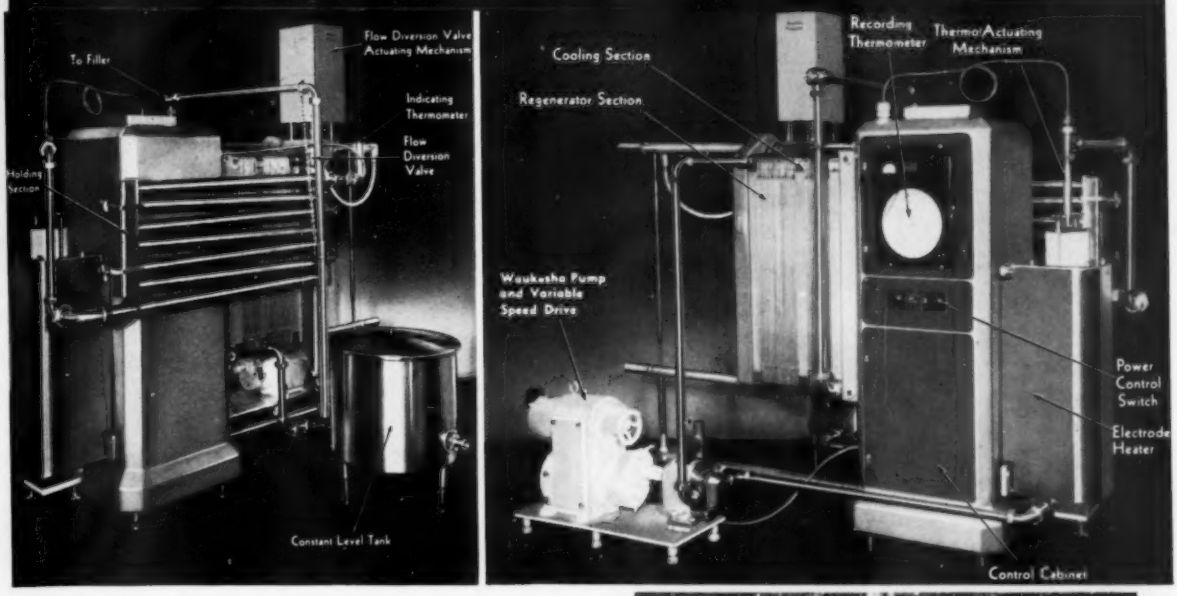
Meeting the varied tastes and idiosyncrasies of a large passenger list is a

*(Please Turn to Page 88)*



XUM

# CHOOSE FROM NINE MODELS!

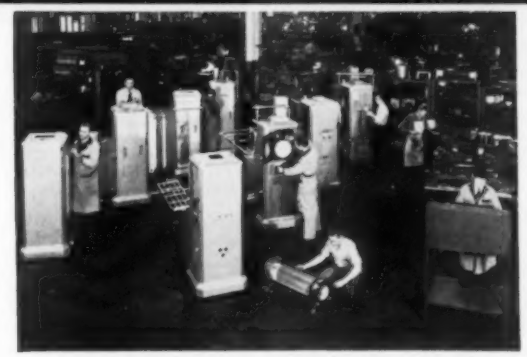



**ABOVE:** *Electro-Pure Model 100, showing all important operational sections*

## ELECTRO-PURE
### ALL-ELECTRIC PASTEURIZER

**No matter what size dairy you operate there is an Ex-Cell-O precision built, all-electric, short-time pasteurizer to fit your needs. The nine Electro-Pure models, which range in capacity from 1,300 lbs. per hour to 10,000 lbs. per hour, are simple in theory and design; and are equally simple to operate. . . . Electro-Pure pasteurizes milk in a few seconds, thoroughly and safely. The vitamin content and sweet, natural flavor are practically retained. Burned or scorched taste is avoided. It's the fast, efficient modern way to Pasteurize. Get the facts about these nine great machines—there is a model especially suited for YOUR dairy. Write today!**

*Prompt service on Electro-Pure rendered through 23 Service Offices covering the entire United States.*



**Electro-Pure assembly line in the Ex-Cell-O plant, Detroit**

Pure-Pak ELECTRO-PURE PASTEURIZER (XLO)

**9 MODELS** *(Pasteurizing capacity in lbs. per hour)*

| | |
|---|---|
| No. 13.....1,300 lbs. | No. 50.....5,000 lbs. |
| No. 20.....2,000 lbs. | No. 60.....6,000 lbs. |
| No. 30.....3,000 lbs. | No. 75.....7,500 lbs. |
| No. 40.....4,000 lbs. | No. 85.....8,500 lbs. |
| No. 100.....10,000 lbs. | |

WHEN Pure-Pak POURS... IT'S PURE!

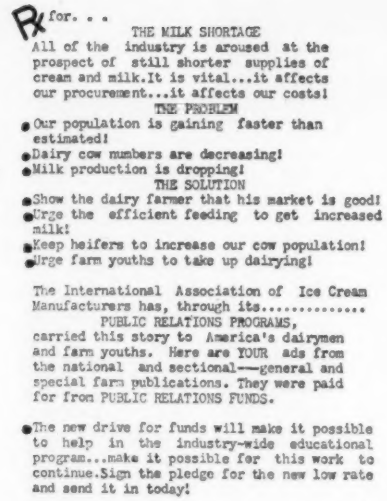
*Ex-Cell-O also manufactures Pure-Pak Milk Packaging machines and Ice Cream Packaging machines.*

**Pure-Pak Division** EX-CELL-O CORP. *Established in 1919* **Detroit 32**

*Please send information on Electro-Pure Pasteurizer for capacity of approx. lbs. per hour.*

Name_____

Address_____


℞ for. . .
THE MILK SHORTAGE
All of the industry is aroused at the prospect of still shorter supplies of cream and milk.It is vital...it affects our procurement...it affects our costs!
THE PROBLEM
●Our population is gaining faster than estimated!
●Dairy cow numbers are decreasing!
●Milk production is dropping!
THE SOLUTION
●Show the dairy farmer that his market is good!
●Urge the efficient feeding to get increased milk!
●Keep heifers to increase our cow population!
●Urge farm youths to take up dairying!
The International Association of Ice Cream Manufacturers has, through its.....
PUBLIC RELATIONS PROGRAMS,
carried this story to America's dairymen and farm youths. Here are YOUR ads from the national and sectional—general and special farm publications. They were paid for from PUBLIC RELATIONS FUNDS.
●The new drive for funds will make it possible to help in the industry-wide educational program...make it possible for this work to continue.Sign the pledge for the new low rate and send it in today!

**One of the pieces of literature sent out by the International Association of Ice Cream Manufacturers in their attack on the milk supply problem.**

# THE BABIES ARE AHEAD

## Four Million New Babies Minus Two Million Dairy Cows Equal One First Class Problem

OLE GRAN'PAPPY STORK MADE nearly four million stops in the United States during 1947. More babies were born in that fecund year than existed in the entire nation when the Constitution was adopted. Almost more babies than the population of any State in the Union. According to the Research Department of the Curtis Publishing Company the number of children in the United States under five years old has increased 36 per cent since 1940. At the close of last year there were more than fourteen million children in this country under five years of age.

To any dairyman with his ear to the ground and his eye on a market these figures mean one thing—MORE MILK. It is quite apparent that, not only has consumption per capita increased but that number of people in the market has increased. The expanding market is not a temporary thing, it is here to stay. The big question is "Where will the milk come from?"

### A Fourteen year Cycle

Economists, familiar with the realities of milk production, point out that cow numbers fluctuate in a fourteen year cycle. The low point in that cycle is occurring now. The dairy industry is faced with the disconcerting situation of an expanding demand and declining supply.

The supply problem is reflected in the difficulties experienced by the butter people in securing supplies as well as in the statistical record of actual production. It is reported that milk production for the first quarter of 1948 was down 6 per cent from the same period last year. Most dairymen look with gratitude toward the flush season as offering some respite from their troubles but shake their heads when they contemplate the troubles that are sure to occur with the fall famine. In New England, dairymen are anticipating the shortest supply of all time this year.

The tragedy of the whole situation is the fact that dairymen will not only be unable to sell as much milk as they could if they could get the milk but a golden opportunty to weld new customers to the "milky way" will be but partly exploited.

### Grain Prospects Favorable

In spite of the present rather unfavorable milk-feed ratio, it is possible for dairymen to do more than simply sit on the mourner's bench. All reports indicate a recession in grain prices. Whether the recession will be large or small is a moot question but the prospects for a bountiful harvest on a world wide scale are good. Furthermore the trend toward grassland farming is making important progress. Husbandmen are becoming increasingly aware of the part that good roughage can play in cutting down feeding costs while maintaining production at high levels. Increased mechanization is also making a bid for a place in the milk production sun.

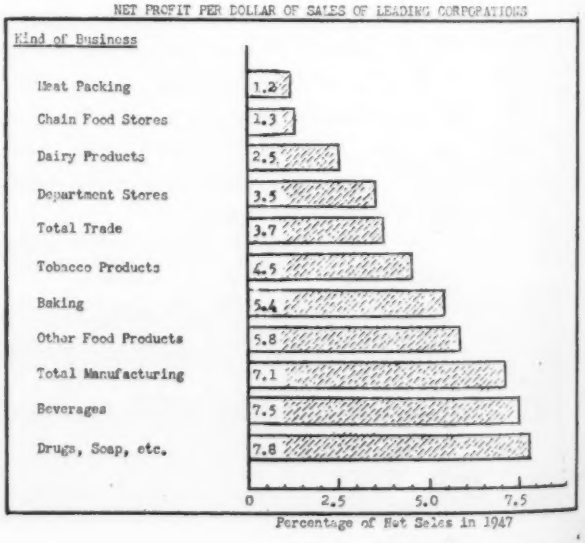
A concrete effort at meeting the shortage problem is the work of the International Association of Ice Cream Manufacturers. In a well balanced public relations program aimed at the dairy farmer through the milk handler the Association is really unlimbering the heavy artillery.

Main object of the program is to bring to the producer's attention the prospects for better milk-feed relationships, the nature of the demand for milk and milk products, and the danger of losing this market if people get out of the dairy food habit.

The International Association is circulating its message through thirty-nine agricultural and trade publications. The advertisements emphasize the theme "A growing market for growing farmers."

### Story for Local Papers

In addition to the magazine space, material is being placed in the hands of Association members for use in local papers. Perhaps one of the nicest touches is the news story



that members are urged to give to their home town editors. The story starts off "'The production of milk on America's dairy farms is falling behind demand and threatening the future of the dairy farmer and the dairy industry.' This ominous warning was sounded today by (your name) of (your company) citing the causes of the sharp decline in milk production which has brought supplies to the lowest per capita level in 10 years."

The story goes on to describe the situation and to point out the brighter prospects of the future. Members are urged to see their local editors in person in order to get the best results.

The Ice Cream people are also attempting to raise funds to further implement this work. The contributions asked are three-tenths of a mill per gallon (.003) on the basis of gallonage reported by Association members for dues purposes.

How effective this program will be is difficult to foresee. The time appears to be ripe, however, for such activity. One of the most significant statistics in recent population studies reveals that highest birth rate is not among the low income groups. Professional men, craftsmen, proprietors, managers, and officials, people who can afford to buy milk, are people who are raising the largest number of children.

The future market looks very enticing. With a little encouragement the stork might be persuaded to direct some of his attention to the dairy cattle birth rate. There are a lot of potential milk buyers who hope so.

●

## V. P. I. Dairy Day Winners

A Guernsey shown by Melven W. Jefferson of Red House, was judged grand champion at the rain dampened Virginia Tech dairy day celebration.

Jefferson's entry also won the Guernsey breed championship and first place in the class for aged Guernsey cows.

Picked by judges as reserve champion was a Holstein shown by Lyle C. Morgan of Bedford. The same cow was judged Holstein breed champion and took first place in the class for Holstein two-year olds. A Jersey shown by Joseph G. Kinzie of Troutville was named freshman champion, Jersey breed champion, and first place winner in the Jersey aged cow class.

All entries in the show were from the Tech dairy herd. They were selected by students weeks in advance and groomed and shown by the same students.

Judges were: R. W. Ducklee of Wilder, Vt., field representative for the American Jersey Cattle Club; J. M. Jester, Union, S. C., field representative for the American Guernsey Cattle Club, and E. W. Carson, Appomattox, district agent for the Virginia Agriculture Extension Service.

Students whose entries won first places in their classes were: Jersey heifers—Wirt H. Foster, Ashland; Jersey two-year olds—Edwin E. Everhart; Harpers Ferry; Guernsey heifers—Robert W. Gilbert, Lynchburg; Holstein aged cows—W. C. Bevins, Herndon; Holstein heifers—Ernest M. Reeves, Mount Solon; Guernsey two-year olds—William M. Davies, Independence.

The Dairy Day celebration was sponsored by the Virginia Tech Chapter of The American Dairy Science Association. Charles F. Trent of Stuart, a senior in Dairy Husbandry, was in charge of the Program.

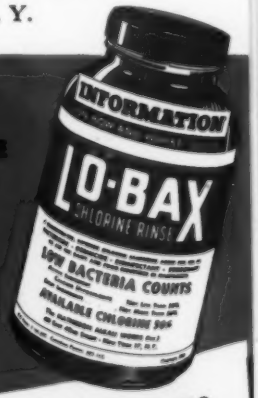
Prizes in the contest, including a year's subscription to the American Butter Review and the American Milk Review, were awarded at the annual banquet of the Dairy Science Association Chapter tonight. Banquet speaker was Donald Mook, a Tech graduate who is now research director of the Borden Co.'s new products laboratory in New York.

*When?* As fast as you get more of your producers to really sanitize pails and utensils. If those "balky" patrons would start using a chlorine rinse, many would show a consistent improvement in milk quality. Win them over with effective LO-BAX promotional material.

When sending out milk checks, enclose action-getting LO-BAX letters and folders. Display the attractive LO-BAX posters. Give your patrons milk house instruction cards and booklets on milk sanitation—all these are free to dairy plants offering LO-BAX. And, of course, there's always the help of stepped-up LO-BAX radio and farm paper advertising.

A nearby Mathieson man will show you how the LO-BAX plan works . . . explain its help in getting more profits, increasing your volume and improving your competitive position. Write Mathieson Chemical Corporation, 60 East 42nd Street, New York 17, N. Y.

LO-BAX
50% AVAILABLE CHLORINE
A highly efficient chlorine bactericide
A FAST KILLER
EASY TO HANDLE AND USE
STABLE (doesn't lose strength)
READILY DISSOLVING
HARMLESS TO COWS' UDDERS AND MILKERS' HANDS




PMQ
PROTECT MILK QUALITY

Mathieson
LO-BAX
Lo-Bax . . . Super Nufos . . . HTH-15 . . . Dry Ice
Carbonic Gas . . . Ammonia, Anhydrous & Aqua
Caustic Soda . . . Soda Ash . . . Bicarbonate of Soda
Liquid Chlorine . . . Chlorine Dioxide . . . PH-Plus
Sodium Chlorite Products . . . Sodium Methylate

# *The Milk Bar and*
# PICNIC TIME PROMOTIONS

**By ERNEST A. DENCH**

*As the competition for the food dollar grows more keen the dairy operator will logically explore each new avenue for additional business. Milk bars are becoming increasingly popular. As the summer season swings into line the possibilities for encouraging this phase of the industry offer interesting prospects. The Milk Bar is peculiarly well equipped to take advantage of the Picnic Promotions that Mr. Dench suggests in this article. Green pastures, brooks, and cows are associated with dairying and picnicing alike. It may be that here is a bet dairy operators should not overlook.*

●

MR. MILK BAR OPERATOR, ARE YOU acquainted with those little-known beauty spots in the nearby countryside or at the shore?

Knowledge of these *additional* outdoor locales will give you a decided edge over your competitors. Most picknickers will include dairy products when selecting things to eat and drink.

The essential "Where To Go" information can be collected by friendly questioning. Outdoor people of both sexes, such as anglers, hunters, campers, hikers, horseback riders and cyclist generally like to share their knowledge with others. Some of them are already numbered among your customers.

Have each such informant write out brief but clear details of the rural beauty spots he or she recommends for picnics and other outings. First and foremost is how to reach the place, then the carfare cost (if by common carrier), and the auto mileage alternative. If some walking is entailed, as is usually the case with spots off the beaten path, ascertain the distance, and whether rough or smooth going.

Condense the data about each place on a plain 3 x 5 filing card, even if you have to use both sides. Typewritten cards will not only be easier and quicker to read, but will provide MORE space for information. Group the cards in a fiberboard filing tray or old envelope or shoe carton. When a person comes in for information, pass the tray for self-service. Provide pad and pencil for taking notes. This plan will make the least possible interruption with store service at busy times. As the file grows, add sub-classifications, such as fishing streams, hunting areas, cycling paths, riding stables near bridle trail systems, hiking trails, campsites, golf courses where the sport may be enjoyed at a daily fee, and tennis courts operating on an hourly tariff basis to players.

The other summer we noticed one dairy in a small city with a timely window display. A large sign was captioned:

"Do you drive to the nearby interesting yet not-so-well-known places? There are many short drives, 15-30 minutes, off the main highways, worth taking. WE'LL BE PLEASED TO TELL YOU ABOUT THEM."

### Timely Displays Help

Atmosphering several types of picnics in a single window display isn't as formidable as it may seem. We saw it done with the greatest of ease. A large sign was worded this way:

"ONE PICNIC DOESN'T MAKE A SUMMER

Lots of 'em do—and you can vary the places to go for your good times outdoors. Suggestions are yours for the asking."

Green decorative paper streamers extended from the above background sign to all parts of the floor, where each type of picnic was symbolized. Examples: A pail of beach sand, some tufts of meadow grass, a bed of dried leaves mixed with forest humus, a chunk of rich green turf, etc. Among these atmospheric "bits" were appropriate merchandise items.

### Summer Birthdays

The birthday is a good "filler" window display. We saw it done as a large cardboard clock cut-out. Against the white surface, large minute hands, each numbered 1 to 60, were painted in black. The center of the dial was inscribed:

"WHOSE BIRTHDAY COMES NEXT THIS SUMMER?

If a friend or a congenial neighbor, get to know him better with a picnic in some nearby scenic spot."

From a merchandising standpoint, the display contained some of the answers to the inevitable "What do we take?" question.

### A Bus Traffic Stopper

One dairy store has, in addition to its main window frontage, a small side window of band-box dimensions. Because the corner is an important bus stop, the flow of stoppers is large. It is a display location conducive to consumer reflection during the tedious minutes until the next bus of the desired route appears. On warm days cool thoughts should be the ones to drive home, reasons this wise dairy products merchandiser. In goes a picnic trim. A few well-chosen merchandise items are laid on a tiny artificial grass mat, back of which is the sign: "How About a Nice Little Picnic This Evening with a Congenial Pal or Two?"

*In Conclusion:* Main highways are becoming more and more congested to say nothing of noise, fumes and eternal watchfulness while at the wheel. There is no pleasure in pulling up for a prolonged halt where sand or gravel has been hewed out of the ground adjacent to the shoulder. If the location has not already been taken, there will be as much seclusion—and with that, relaxation—as squatting to nibble a sandwich in the heart of Times Square, or any other big city congestion point. If there are children in the party, mom and pop will have to keep eyes on them all the time, lest they inadvertently wander into the highway lane.

The escape is down some secondary road, and at some point along this, an unimproved road, perhaps a dead-ender. Along here may be a brook site, a strip of woods, a clump of trees in a cow pasture, subject to an audience from curious critters—but, no bull!



XUM

## *Sanitary Standards Meeting*

**Sub-Commitee of Dairy Industry Group Discusses Problem With Milk Sanitarians and U. S. Public Health Service**

THE SANITARY STANDARDS Sub-Committee of the Dairy Industry Committee met in Chicago, April 20-21. This group representing the dairy industry and the manufacturers of machinery meet from time to time with the International Association of Milk Sanitarians and with the U. S. Public Health Service to agree on standards for machinery and equipment for the manufacturer of machinery and equipment which will be acceptable to all three groups.

When the standards for a piece of equipment have been accepted by the Sanitarians, U. S. Public Health Service and the Dairy Industry, the manufacturer of such equipment is permitted to use the label, "AAA," thus the dairyman may buy equipment which complies with these requirements knowing that it will pass the sanitary inspection throughout the country.

At the Chicago meeting, the Sanitary Standards Sub-Committee agreed upon the Fifth Revision of Tentative Sanitary Standards for homogenizers and high pressure pumps of the plunger type. The Fifth Revision of these standards will be presented to the Sanitarians at their next meeting.

The Second Revision of the Sanitary Standards for straightaway and rotary can washers was considered and returned to the Task Committee on Can Washers for further work.

The Task Committee on Sanitary Standards for stainless steel milk transportation tanks submitted the Second Revised Tentative Standards on these tanks. The Sanitary Standards Sub-Committee made a number of suggestions for changes and returned the standards to the Task Committee for further work.

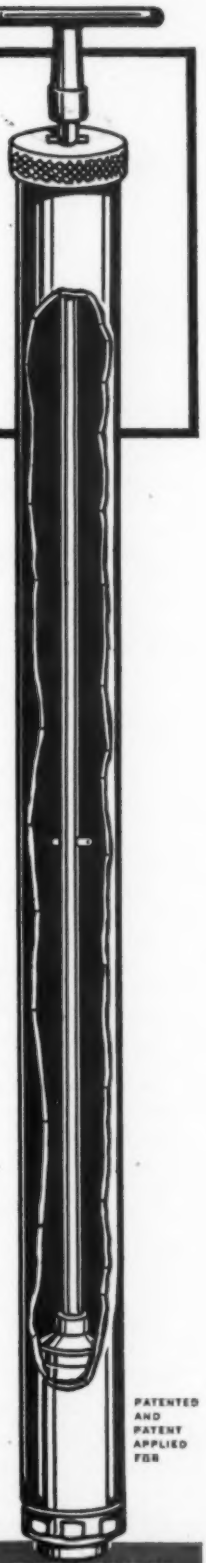
The Task Committee on Sanitary Standards for tin-coated dairy pails and milk strainers submitted their Second Revision of the standards originally proposed. Several changes were suggested by the Sanitary Standards Sub-Committee and these proposed changes were accepted by the Task Committee. This Third Revision of the Tentative Standards will be submitted to the Sanitarians at their next meeting.

The Task Committee on Tentative Standards for milk and milk products filters using a disposable filter media were submitted and a number of suggestions were made and returned to the Task Committee for another Revision.

Tentative Sanitary Standards were submitted by Task Committees for surface type heat exchangers for plate type heat exchangers and tubular type of heat exchangers. A number of suggested changes were made in each of the three standards and they were returned to the Task Committees for further revision. Of particular interest to the ice cream manufacturers, is the fact that although the work on tubular heat exchangers was intended for pasteurizers and pre-heaters, the standards as originally written could also be interpreted to include ice cream freezers. The Sanitary Standards Sub-Committee agreed that ice cream freezers should be the subject of a separate standard rather than to be included with heat exchangers, the object of which is to heat rather than to cool.

The Second Revision of the suggested standards for milking machines was considered by the Committee and after a number of recommended changes, returned to the Task Committee for further revision.


*Here's the New FAST Cream Sediment Tester Leading Dairymen are Choosing—*



**"OFF THE BOTTOM"**
***Model "F"***
**CREAM SEDIMENT TESTER**

● The new "Off The Bottom" L-W Model "F" Cream Sediment Tester permits faster testing than any other method. Farmers can get results in the receiving room when cream is delivered and dairymen use this fine, modern tester.

Constructed with a 32-ounce capacity, the L-W Model "F" Tester draws 16 ounces of hot water and combines it with 16 ounces of cream drawn from the bottom of the cream can . . . permitting free passage of the butterfat through the 1¼" disc. The operations are completed in a matter of seconds!

The L-W Model "F" Tester is light weight but built of durable, high quality materials. Its efficient design features a fool-proof regulating pin to assure the sampling of 16 ounces of both water and cream. The 16-ounce cream sample has been established as standard. The L-W Model "F" Cream Sediment Tester eliminates any waste or contamination of cream tested.

*Check These Important Features:*

* **"Off the Bottom" Testing**
* **No cream waste**
* **Always tests 16 ounces—the Standard cream sample**
* **Speeds up testing many times Tests made in receiving room**
* **Dual use—as milk sediment tester**

PATENTED AND PATENT APPLIED FOR

*Write for name of jobber near you*
*14 Day Trial—no obligation.*

**DAIRY SUPPLY DIVISION**
THE LANGSENKAMP-WHEELER BRASS WORKS, INC.
1151 WEST 79th STREET · CHICAGO 20, ILLINOIS

# North of Forty-Nine

**A PAGE DEVOTED TO THE DAIRY INDUSTRY IN CANADA**

## MILK CONSUMPTION HIGH

### Ontario Milk Control Act Under Legislative Fire—Producers Establish Marketing Agencies

TORONTO, ONTARIO—People of Ontario drank more milk in 1947 than in any other year in history, Agriculture Minister Tom Kennedy said in the legislature recently. This included tinned milk, he added, and that is why there is a shortage of that commodity.

The minister was answering criticism of the new Ontario Milk Control Act, which passed second reading on a recorded vote of 53 to 10 after an attempt to have it sidetracked to the agriculture committee. The CCF and the two Communist members voted against the bill.

CCF Leader W. J. Grummett introduced a motion that the bill be not read a second time, but he referred to the agriculture committee of the House for further study. The motion was defeated, 53 to 10. The Liberals voted with the government both times.

Under the bill, the Milk Control Board no longer sets prices, and producers are empowered to establish marketing agencies which will enter price agreements with distributors. It also gives power to the marketing agencies to appoint inspectors to protect the interests of producers.

Mr. Grummett claimed that the bill does not go far enough, and "just skimmed the top of the commendations made by the Royal Commission on Milk last year. "There are no provisions for regulating distributing and to adequate control of prices,." he added "This bill should go to the agriculture committee for further study in relation to the report of the Royal Commission," he contended.

Attorney-General Leslie Blackwell asked the CCF leader if he would state in what way the bill measures up to the report of the commission and in what ways it does not.

"That's just a smart twist which the Attorney-General always uses," replied Mr. Grummett. "He's just trying to throw a smoke screen over the whole subject."

"The member is exhibiting either an unwillingness to answer the question, or his inability to do so," responded Mr. Blackwell. He added that if Mr. Grummett would examine the bill he would find that it contains regulations empowering the Milk Control Board to regulate distribution in case of waste and to control the price once it has been bargained by producers and distributors.

Liberal Leader Farquhar Oliver said the consumer must realize that unless the farmer gets a proper price for his milk there will be no milk production. The difficulty is in finding a price for milk which will be adequate to the farmer and low enough for the consumer. The only way out, he said, is for the government to pay a subsidy to distributors, but he did not commit himself to this.

"Terrible disappointment," was the way J. B. Salsberg (LPP, St. Andrew), described the bill. "The government should be concerned with the producer and the consumer," he said and charged that monopolies were "bobling" up the small distributors. "A subsidy could be provided with the profits from liquor, and free milk for school children could be distributed. Milk consumption has declined and will continue to decline while the consumer is at the mercy of the free play the Minister of Agriculture says the bill will make possible."

At this point, Mr. Kennedy said the motion of Mr. Grummett was not acceptable because the bill has had considerable study already, and answered Mr. Salsberg that more milk was drunk last year in Ontario than ever before.

On presenting the bill for second reading, Mr. Kennedy said: "The principles are democratic, and I mean by that we now propose to let the people involved in the milk industry handle their own affairs.

"There will be no government direction or interference so far as the price of milk is concerned. The bill makes no provision for any fixing on prices to the producer, or to the consumer, by the Milk Control Board.

"In other words, this will provide a medium for producers and consumers, processors and truckers to do business together in an orderly manner.

"I think the industry and the people are tired of government interference in business, and so far as the milk industry is concerned, they are going to have none of it. We are not going to put an umbrella over the inefficient producer or the inefficient distributor, but through free competition in the retail field, and collective bargaining between the producer and distributor, we are going to allow prices to find their proper level."

The minister said producers can organize their marketing agencies to get rid of their surplus milk, or work out some means with the distributors of rewarding farmers who maintain high milk production in fall and winter months.

### GETTING TIRED BOYS?

Hamilton, Ontario—Mrs. Robert Scott, who marked her 90th birthday, still does some work on her farm in East Flamboro township near Hamilton. She milks cows and looks after other farm chores.

"Hard work and lots of it, that's what keeps you healthy," says this woman, left with three children and a 130-acre farm after the death of her husband in 1907.

●

## COMMONS TO PROBE MILK

Ottawa, Ontario—The Commons prices committee, investigating the high cost of living, is going to probe milk prices even though milk is provincially controlled, it was learned from a committee source.

"The Canadian Association of Consumers have demanded an investigation into the price of milk as they feel the overall dominion cost is something which everyone in the country should take up arms about and fight," the source declared.

Hon. Paul Martin, chairman of the Commons prices committee, asked Mrs. W. T. Marshall, president of the Canadian Association of Consumers, whether her group still thought it imperative the committee investigate the cost of milk even though it was a provincially controlled product. Mrs. Marshall answered her organization were in complete accord that milk must be studied and the result made public.



XUM

# SHARPLES DESIGNS WITH AN EYE TO THE FUTURE

Sharples offers *today* . . . in most cases for immediate delivery . . . cream separators and milk clarifiers incorporating mechanical and sanitary advancements which are already setting new standards for the industry.

The Sharples Presur-Seald Separator . . . designed, of course, with particular regard to the importance of recovering the greatest possible quantity of high quality cream . . . is still the only separator which gives you all these *additional* features:

Completely non-corrosive construction—no painted or plated surfaces. . . . A truly direct motor drive—no clutch. . . . Larger bowls with higher actual capacities. . . . Completely enclosed motor. . . . A single model, designed to meet *all* present and probable future sanitary requirements.

. . . And, for clarification, the big, 22,000 pounds-per-hour Presur-Seald Milk Clarifier, provides the same advantages, plus more than 800 cubic inches of sediment holding space. Smaller sizes also have comparatively large sediment space to permit longer runs without cleaning.

The SHARPLES CORPORATION

*Presur-Seald* SEPARATORS and CLARIFIERS

*Dairy Equipment Division*

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San Francisco 5, Cal. 686 Howard Street
Cleveland 15, Ohio 453 Hippodrome Annex Bldg.

## CONTROL BILL SCORED

### Milk and Truck Drivers Upset Over Milk Control Bill—See Regulation of Routes and Deliveries

TORONTO, ONTARIO – Ontario's Milk Control Bill came under fire recently from both the AFL Milk Drivers and Truck Drivers Unions. Strike hints were made by officials of both unions as a possible weapon of protest against parts of the bill considered a threat to the unions.

Dave Gambel, secretary-treasurer of the Milk Drivers Union, claimed that Agriculture Minister Kennedy had refused to discuss the union's complaint against a section of the act providing for regulation of milk routes and deliveries.

He said the minister told him on the telephone: "I am not even going to talk to you about it. You're nothing but a disturber." Then he claimed, Mr. Kennedy hung up.

Mr. Kennedy denied the statement was true. "What I said was this (wages) was a matter between the employer and employees."

Mr. Gambel said he had phoned Mr. Kennedy to ask for a meeting with union representatives to discuss the milk control bill. The union, he said, objects to government control of delivery routes and the number of deliveries that can be made during a week. If Sunday work is prohibited, drivers would have to carry double loads on Saturday with no guarantee of double pay.

"I am going to suggest a stoppage of work to demonstrate the feelings of the drivers about this section," he said.

William Mills, president of the Truck Drivers Union, said his union is protesting against what he claimed is regulation of rates transport companies may charge for trucking of milk. This, he said, would be a controlling factor in negotiations between the union and the companies on wages.

### SEEK MILK SUBSIDY

Edmonton, Alberta – Organizations in Alberta have started thumping for a provincial government subsidy on milk sold to the consumer.

A delegation of members of four provincial housewives leagues in the province is making plans to meet the provincial legislature on March ninth to voice their demand. The delegation will ask for a three-cent per quart subsidy to make up for the recent increase of three cents in the retail price of top grade milk. The delegation will specifically ask that the subsidy be instituted so far as child consumption of milk is concerned.

●

## ASK UTILITY STATUS

Toronto, Ontario—Demand that milk "be classed as a public utility in the same way as are water, postal services, hydro, police and fire," was made by the Ontario Federation of Labor (CCL), in a brief presented to Premier Drew and the provincial cabinet. It also urged provincial subsidies which would "guarantee that milk be distributed and sold to homes at not more than 10 cents a quart." Present price of milk is 18 cents a quart.

The government was "condemned for its failure to even consider the legislative proposals put before it by the federation last year. The sessions of the legislature last year were too short, and little or no time was given to discussions of labor proposals."

It charged that requests by the federation to present their proposals to the standing committee on labor were refused "and we feel that a great disservice was done in not permitting the federation to meet his committee, which to our knowledge has never met, and certainly has performed no useful function."

●

## TAKE COWS TO COLLEGE

Toronto, Ontario – Victoria College men students, in resident at Burwash Hall, demonstrated their disapproval of the dining room's reduction in breakfast milk this week by bringing in their own milk supply—on the hoof!

Two cows stood quietly in the dining hall and supplied a certain amount of milk to those able to coax it from them.

Chairman of the Victoria College students' committee levelled charges of inefficiency against Burwash Hall because of the milk cut. Prior to the cut anyone could drink as much milk as he liked with his meals.

President Brown of Victoria College, remarked that "if the students have a grievance they are perfectly within their rights to present it to the Board of Regents."

Professor W. O. Fennell, senior tutor, pointed out that heavy enrolment had made heavy demands on all university personnel. Help was hard to get, often inefficient and more expensive. "Our concern," he explained, "is to avoid a rise in fees. Some form of reduction must be affected without impairing the health of students."

## RAIL TROUBLES TOO

### Increase in Railway Freight Rates in Canada Will Have Little Effect on Milk Supply, Truckers Say

Toronto, Ontario—The 21 per cent boost in railway freight rates is unlikely to mean added costs to consumers of milk and dairy products in the Toronto area, the Milk Transporters' divisions of the automotive transport association has announced.

J. R. McLeod, executive secretary of the Toronto Milk Transport association, stated that of the 14,500 cans of milk arriving daily in Toronto, 99.76 per cent come direct from farms to dairies by truck.

Transporters hauling milk recently completed an agreement with the Toronto Milk Producers' association providing for an increase of two cents per 32-quart can. "This is the first increase that milk truckers have received in many years," Mr. McLeod said, "and represents a negligible proportion of the ultimate cost of milk to the consumer."

### HOW'S THAT AGAIN?

Chilliwack, B.C. – Nearly 500 members of Fraser Valley Milk Producers Association went on record recently as unanimously rejecting any increases in the price of milk.

The move was taken despite increased costs of the association. Members believe that the public is now paying its limit. Five nominees were placed before the association to fill four directorate positions.

Nominated were: Clark Brannick, Chilliwack, B.C.; F. N. Williams, Dewdney, B.C.; D. R. Nicholson, Mount Lehman, B.C.; T. M. Edward, Chilliwack and H. A. Berry, Langley.

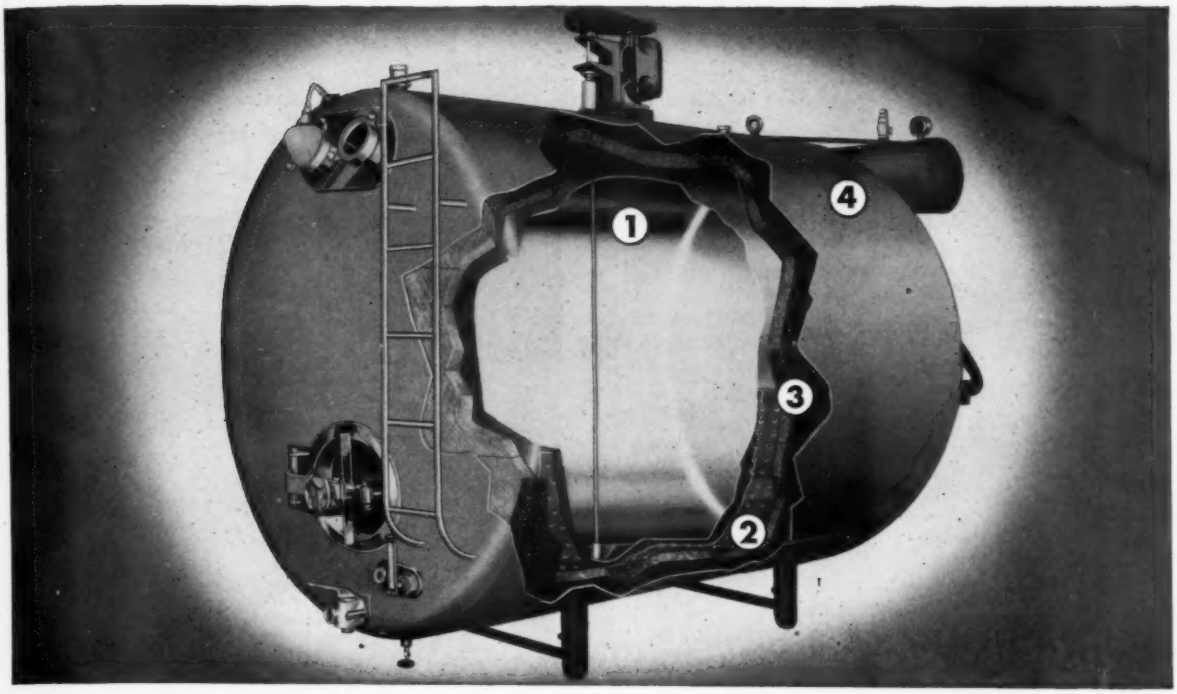
"Our association is the only association representing milk haulers in Ontario," Mr. McLeod said. "We have over 400 members and 16 local transport organizations, so we do speak with some authority."

Railway officials were unable to comment on possibility of an increase in milk haulage prices. "It will be several weeks before the new tariffs can be worked out," an official said. "After that, it will take some little time to put the new schedules into operation. Until some operating basis is determined, no one can predict what the new rates will do to the prices of milk and dairy products."



XUM

# Here's the inside story...




## of SAN-I-TANK milk protection for Holding...Storing...Processing

The Frigidwall San-I-Tank is a dual purpose unit that combines storage and cooling in one tank. Frigidwall saves the double handling of milk from cooler to storage tank . . . eliminates the necessity for special cooling equipment . . . conserves floor space. Milk is piped from the weigh tank directly to the Frigidwall Tank and immediately cooled. After cooling, the milk may be stored in the same tank until processing. Thick, sealed-cork insulation plus the efficient cooling unit will hold milk at the desired low temperature almost indefinitely. The entire milk content of the tank is cooled quickly and economically through the generous mixing motion of the Motor Driven Agitator. The large propeller blade of the agitator is located four inches from the tank bottom and constantly is moving the milk against the cooling jacket of the tank. Top or side entering agitator units are available. Tank capacities up to 3000 gallons.

*The quality construction and advanced design of Frigidwall San-I-Tank offers many advantages to the user. Look beneath the surface and see why Frigidwall offers you more for your money.*

1. STAINLESS STEEL INTERIOR of the Frigidwall San-I-Tank is polished to a No. 4 finish for complete sanitation and thorough cleaning. Tank is completely self-draining, guaranteed against rust and corrosion and is easily accessible through a large manhole door. All tank parts are removable.

2. A SPECIAL NEW, HIGH PRESSURE JACKET is welded to the tank lining providing a "flooded-surface" contact with the tank interior. The coolant flows throughout the entire jacketed area with a maximum temperature pulldown. Each cooling jacket is expertly welded and pressure tested.

3. EFFECTIVE LIFETIME INSULATION is provided by a combination of highest quality cork and glass wool. Tank is fully sealed against all moisture and will hold milk at a constant low temperature for long periods of time. Insulation is tightly packed and anchored between tank lining walls.

4. The EXTERIOR WALL of the Frigidwall Tank is made from durable heat treated carbon steel and protected with a heavy undercoating of rust-proof paint. If desired, tanks are painted to match the color scheme of your milk room. Stainless steel exteriors are available at an additional cost.

## STAINLESS STEEL SAN-I-TANKS

SERVING THESE INDUSTRIES: BEVERAGE • MILK • FOOD • DRUGS • CHEMICALS • COSMETICS

**METAL GLASS PRODUCTS COMPANY**

GENERAL OFFICES BELDING 2, MICHIGAN

# VISUAL AID FOR SALES TRAINING

**New Teaching Device is Meeting With Considerable Success in Training Route Salesmen — Vitex Corporation Has Nine Units in Operation**

THIS IS A STORY about sales training, training through a new spectacular, visual method. Although this new system, called the Hile-Damroth method, has found acceptance in a wide variety of industries, its particular value to dairymen will lie in its effectiveness as a tool for training employees.

Business concerns spend much time, effort, and money on all kinds of selling tools—films, charts, booklets, displays and other items. This new method has the virtue of being simple yet capable of handling, easily and effectively, a host of complicated ideas. In essence the system consists of a large portable board covered with black cloth to which paper symbols, pictures, or other story telling devices may be attached. The unique character of the system lies in the nature of the board and the paper. The backs of the different words, symbols, or pictures are backed with a granular substance so that they stick to the board. A symbol is placed on the board during the course of the training talk and can be instantly removed to make room for another. This allows for a fast moving, attention-holding presentation that, according to reports, is meeting no little success in training routemen.

### Presentations Custom Built

Each presentation is, of course, custom built to meet the needs of the particular type of training that is involved. The basic, concept, however, to cover one idea at a time in a thorough and orderly manner so that no element of confusion can creep in, is constant. Bright colors are used in the story telling pieces and a minimum of "wordy" symbols are used. This use of color coupled with constant change on the has been effective in holding audience attention.

The inventor, James Hile, developed this method while in the army. He set up a visual training center at Washington and Lee University and there experimented and developed the Board. The courses at this school were so intense and complicated that charts, graphs and chalk lectures were far too dull to keep the attention of the students. Also, the material in the courses changed so frequently, it was impossible to keep up with costly films and slides. Thus, Mr. Hile's simple system proved an excellent answer to the problem. Revisions could be quickly and easily made; and the most complicated problem could be broken down into easily assimilated and remembered visual symbols. For this excellent work at Washington and Lee Mr. Hile received an Army citation.

**William Damroth, with the "magic board" demonstrates the proper method of using the equipment to put across a training message.**

### Employed by Variety of Firms

Upon his release from the Army Mr. Hile met William Damroth and together they decided to go into business. That was two years ago. The effectiveness of their method was quickly proved. Life Magazine uses the H-D method for promoting its merchandising program. Merck & Co., Lederle Laboratories and Wyeth use the board to train their salesmen and to introduce complicated new medical preparations to them. Standard Oil presented a report on its South American advertising to the board of directors via the Board. Blue Coal, American Optical and American Carbon & Carbide use this method of presentation to educate jobbers and dealers, and thus increase sales. Many other national firms are using the H-D Method for sales training, promotion and education. Currently the Vitex Laboratories (a division of Nopco Chemical Co., Harrison, N. J.) is circulating nine boards throughout the country in order to promote the sales of vitaminized milk. The Vitex story is an interesting one.

### Effective With Routemen

Vitex has always actively promoted its products through advertising and sales promotion aids to its customers. One device that has been especially effective with dairymen is routemen sales meetings conducted by Vitex representatives. At these meetings an attempt is made to interest routemen in pushing the dairy's top quality milk in preference to regular milk. Routemen are the direct and usually the only contact between the dairy and the consumer. Dairy managers are therefore greatly interested in turning their delivery men into salesmen. To do this a real sales training job must be done.

With food prices bumping into increasing consumer resistance, the importance of this type of sales training assumes even greater proportions. Always on the lookout for the most effective way of doing this sales training job, Herbert L. Freet, advertising manager of Nopco's Vitamin Division, called in Hile-Damroth to work out an appropriate visual message. Several elements were involved. Since routemen are well paid just to deliver, they tend to be lukewarm about pushing the dairy's products. This tendency has to be overcome. The housewife has to be sold on the extra food values of vitaminized milk, since every cent today really counts in her budget. In order to sell that better milk, the routemen must understand some of the basic facts about vitamins, and this information has to be conveyed in a form which is quickly and easily absorbed by busy and perhaps disinterested men.

### Basic Ideas Involved

After several consultations, during which the facts were carefully examined and interpreted for visual application, a plot evolved. The story was personalized—directed at the men themselves. The themes:

1) Your wife wants to get the most for

*(Please Turn to Page 89)*

# Meet Your Boss!

# MRS. CONSUMER
## ...and she demands
# QUALITY

Looks familiar, doesn't she? She should . . . she was your boss before the war and she's back in the driver's seat again. Mrs. Consumer is a demanding boss . . . demanding of quality in the concentrated milk products she buys. That's why more and more creamery products plant operators are installing Buflovak Double Effect Evaporators. They know that Buflovak Equipment always produces condensed and evaporated milks with a rich, natural flavor, inviting color and uniform texture . . . products that always please Mrs. Consumer. Yes, the boss is demanding of her "employees", but she pays well . . . to the producer that meets her standards . . . the producer who uses the Buflovak Double Effect Evaporator.

# Buflovak double effect EVAPORATOR

**THE BUFLOVAK ROLLER DRYER**

**Profit in flexibility. Be prepared to meet any conceivable market demand by supplementing your Double Effect Evaporator with a low cost efficient Buflovak Roller Dryer for drying whole milk, skim milk and buttermilk.**

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# REFRIGERATED WAREHOUSING

**Knowledge on a Wide Variety of Subjects is Required of the Men Operating the Nation's Billion Dollar Cold Storage Industry**

*By* **J. DUDLEY LEWIS**

***Colorado Ice and Cold Storage Co.***

IT IS A PRIVILEGE to speak to your industry and extoll the merits of another industry, about which little is known and yet has been much maligned at various times. Certainly a billion dollar industry should have a place in the sun.

"COLD STORAGE"—Two words that have caused shudders within the buying and consuming public for a long time. COLD STORAGE, two words that conjure a vision of a dark or ill lighted room, moisture on the walls, perhaps water on the floor, mold formation present, musty, perhaps infested by vermin and certainly with an abundance of odors. Mainly unpainted and the method of deodorizing was the simple procedure of opening the door, with complete disregard of temperatures and humidity.

Products in the room, perhaps consisted of cheese, butter, several cases of eggs, smoked meats, poultry, all having their place on the table of the average home, but each having their own aroma and storage life span. I refer, of course, to the cooler rooms. Freezer room temperatures were from 5 above zero to 15 above, which temperatures could hardly handle, without deterioration, many of the products stored today. Temperature and humidity was practically non-existent. Product was, in many cases, if not all, piled on the floor, without racks, piled against the walls, piled tightly together with no air space, thus effectively blocking the circulation so necessary to prolong the storage life of all food products.

### Lack of Knowledge Costly

Even in sub-zero rooms, product piled without means of circulation will build up internal heat and result in an inferior product if not a complete loss to the storer. In most cases, the stored product was handled by men, trained in other trades and put to work immediately, without supervision or instruction.

Lack of knowledge of the stored merchandise, its growing life or its method of manufacture, perhaps no interest in the keeping of the product, certainly no research into the characteristics of the products stored. We will grant that this knowledge was not available, at least not in the volume of today. Product, that was entirely free from contamination when stored, would be doomed in this atmosphere.

Compare the foregoing with the REFRIGERATED WAREHOUSE OF TODAY. You read of the millions of dollars spent by General Electric, Bell Telephone, Packers, Preservers, Automobile manufacturers and a myriad of other industries in research to improve, to discover flaws and to eliminate faults in their products. The refrigerated warehouse industry has made the same steps and the same improvements. The Refrigeration Research Foundation is sponsored and supported by the industry and retains a personnel of twenty specialists in the scientific, engineering and commodity fields. Experiments are conducted in many colleges, laboratories and a library of information on all perishables, thus, is available. Nothing is left to chance.

Could the same be said of the warehouse known as "COLD STORAGE?" Each product has a different personality and must be stored accordingly. Spot inspections are made at the time of arrival at the warehouse docks and the storer advised promptly of any deterioration. A thorough knowledge of proper temperatures and humidity, for each product stored, is a must with today's warehouseman. Sanitation is stressed. Rooms are painted white. They are kept clean at all times. Odorless deodorants are used constantly to eliminate the possibility of contamination. It is known that many products are susceptible to foreign odors and must have protection from them. However, experiments made by J. M. Lemon, chief technologist, Division of Commercial Fisheries, Fish and Wild Life Service, show that BUTTER was successfully stored with fish, sole, oysters, etc. for one year with the same decrease in score—1½%—that occurred in the butter that was not exposed. *This is not common practice.*

Cheese can be stored "green" and improved over a period of time through aging. Butter can and has been stored for 12 months with only the normal drop in score. (I speak of normal times, not the $1.00 per pound of today.)

Plastic cream, a source of disaster to many storers, can and has been successfully stored. ONLY proper preparation can make a success of this, however. And the same is true of all products. Did you know that 25 parts of copper to 100,000,000 parts cream can ruin that product as far as storing is concerned? Freezing immediately after pasteurizing cannot be stressed too much. I cannot go into all the "DO and DON'TS" of this and other items. Did you know that immature poultry, such as broilers, can be called spoiled by the color? And did you know that in this type bird, the color pigment or marrow seeps through the bone, thus discoloring the bird? The reason—lack of calcium development, not cold storage.

### Warehouse A Food Bank

"When in doubt, consult your local refrigerated warehouseman." The trust placed in today's warehouseman is as great as that, or greater, placed in the banker. We are a FOOD BANK. Preservation of foodstuffs, certainly is equal to any industry in value to the American home. We do not add to the quality that exists at the time of storing, nor do we detract from that product if it is not left beyond the storage life of the product. All unfrozen products breathe the same as people. When this respiration ceases, the product cannot be assumed to live. This means it should be put into commercial channels prior to this time. Frozen product, stored at zero or colder will de-hydrate to a certain extent. Each type product has a certain storage life, before this condition appears. We know it as "Freezer Burn." Remember, all foodstuffs are perishable regardless whether frozen or unfrozen.

The industry, through trade groups and others who are interested in food processing, wants to reach the ultimate consumer, who is your customer. The refrigerated warehouse industry has made and is making further steps to insure the proper, high vitamin food in the larders of the American home. The industry hopes to overcome the shudders of aversion and at times the sneers of the consumer who still, perhaps subconsciously, envisions a FOOD BANK as a COLD STORAGE plant of 30 years ago.



XUM

# Follow them Outside

# to Increase Your Summer Sales

**"Follow Them Outside". . . and capture the cream of the thirst-quenching business away from carbonated beverages.**

**Let your Johnston man show you how. He has selling helps and 27 proven merchandising plans that will get your name and products before more people more often—outside and inside.**

**Send the coupon today, and he'll call soon.**

Johnston
CANDIES AND CHOCOLATE

ROBERT A. JOHNSTON COMPANY
*Chocolate and Cocoa Division*
MILWAUKEE NEW YORK

Robert A. Johnston Company, Dept. M1
Milwaukee 1, Wisconsin

Dear Sirs: We are interested in increasing our summer sales. Please send the Johnston representative our way soon.

Name .....

Company .....

Address .....

# ACCOUNTING MANUAL

## Milk Industry Foundation's Publication Is Work of Specialists in Fluid Milk Operations

A NEW AND COMPREHENSIVE Accounting Manual For Milk Dealers, published by the Milk Industry Foundation, provides fluid milk distributors with a simplified guide to accounting principles and procedures of practical service in every phase of fluid milk industry operations.

The new Manual is the result of thorough study by the Foundation's Accounting Advisory Committee of which J. F. Malone of The Borden Company, Chicago, is Chairman. Other members of the Committee are: J. M. Forbis, Forest Hill Dairy, Memphis, Tenn.; C. E. Lundberg, Bowman Dairy Company, Chicago; F. C. Nieman, Cloverdale Dairy Company, Wheeling, W. Va.; F. W. Root, Woodlawn Farm Dairy, Wilkes-Barre, Pa.; Carl F. Saxon, National Dairy Products Corporation, New York; F. V. Solzan, City Dairy Company, South Bend, Ind.; W. R. Wright, Beatrice Foods Company, Chicago.

E. B. McClain, Accounting Consultant of the Milk Industry Foundation and for many years accountant for the International Association of Milk Dealers who installed accounting systems for milk companies throughout the Nation, assisted the Committee and guided the Manual through to its final completion.

### Complete Cost Section

The outstanding feature of the Manual is the complete and practical cost section. This section should be most attractive to milk dealers today. Current cost problems brought about by exceedingly high cost of butterfat compared with the thread line margin of profit, the transition of retail sales to wholesale, and, in some markets, glass to single service container method of distribution, makes it imperative that dealers know and analyze their costs.

The Manual provides the key to sound practical accounting and complete management information. It is practical, flexible and easy to use. All important phases of all accounting problems are covered. These represent Financial Accounting under Section II and Cost Accounting under Section III. In addition, under Section IV there will be found a set of fully developed financial and cost statements, which are tied directly into the accounting text. This allows the reader to follow through by statement reference, the outlined procedure. The feature is of much value to the accountant using the manual and simplifies the installation work when a change-over to the suggested system is made.

Each section is separate and complete in itself. It is not necessary, where the needs of management so dictate, to follow completely the entire procedure contained therein.

The Manual contains financial and cost accounting procedures illustrated through the use of a set of Exhibits which contain interlocking figures. The figures used to illustrate the mechanics of the complete method are typical of the average fluid milk plan operations. However, the flexibility of the method permits the accounting procedure to be fitted to meet the specific requirements of manufactured dairy products operations.

### Loose Leaf Form

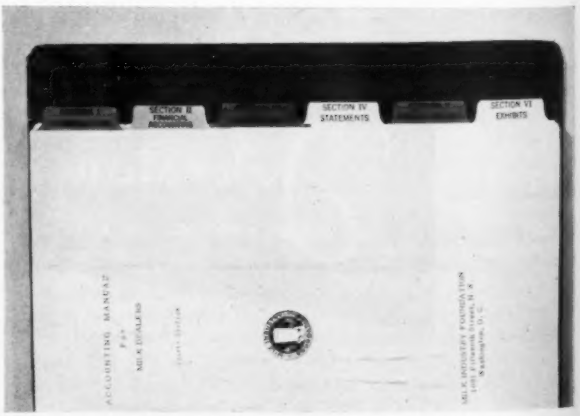
The Manual is set up in loose leaf form so that it can be continually kept up to date through supplements and not require complete revision at future dates.

New, complete and expertly prepared information will aid management, fill members' needs. The manual can be fitted into present record structure with ease of installation. In training new office employees, it becomes a valuable guide. It provides means for securing better financial control over all properties.

The Manual assists in the development of sound and practical cost accounting principles and it provides for sound cost application and analysis and thereby gives management a tool to be used for greater efficiency through complete knowledge of costs. The Manual also provides additional data on the current trend of accounting technique in the industry. It includes complete statements and forms—almost every form needed in a fluid milk business.

The Manual is arranged in six sections: Introduction, Financial Accounting, Cost Accounting, Statements, Miscellaneous, Exhibits.

Since it is the only Manual in the fluid milk distributing industry, the Milk Industry Foundation is offering it to non-members at $50 per copy (which includes delivery charge). For members of the Milk Industry Foundation, the Manual has been priced at $25. Checks should be mailed with order.

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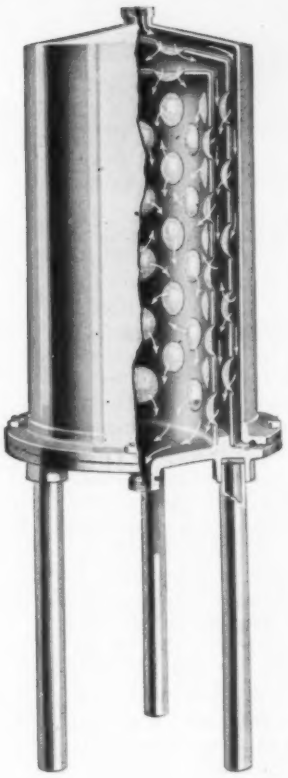

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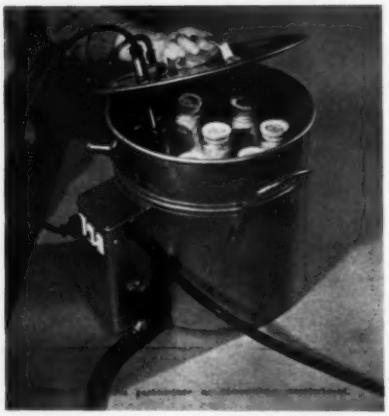

Home Pasteurizer, showing thermostat control. Experimental tank was rectangular.

# *A Modified Shortime* PASTEURIZER FOR FARM and HOME USE

**E. O. ANDERSON*, W. A. JUNNILA† and PATRICIA MacLEOD***

***Departments of Animal Industry and Agricultural Engineering***
***University of Connecticut, Storrs, Connecticut***

A RULING HANDED DOWN on March 5, 1948[1] by Harry Krasow, Workmen's Compensation Commissioner for the Connecticut Fifth Congressional District, in the case of William K. Loucks against Floyd Laird, sets a precedent to make undulant fever an occupational disease.

Mr. Loucks charged that he had contracted undulant fever as a result of his employment and was totally disabled from January 14, 1946 until March 3, 1946. He endeavoured to prove that he had contracted the fever by working with cows harboring the *Brucella abortus* organism and/or by drinking their milk which was provided him by his employer.

Fortunately, since Mr. Laird was one of the few farmers in Connecticut who held workmen's compensation insurance, he was able to meet all of the expenses of the case. Nevertheless, in passing on the claims, Mr. Krasow ruled that any future disability of the employee caused by the contraction of the disease, must be met by the employer who was in this case protected by the insurance. Such a precedent in law could prove disastrous to many a farmer.

This example indicates a need for pasteurization on the farm to protect both the employee and the employer and their families from bacteria capable of producing disease. Having recognized this need long before Mr. Laird's case, we undertook in November 1946 a cooperative research project on "The Development of a Farm Size Milk Pasteurizer"[C]. Although undulant fever may be contracted through other means than the drinking of raw milk, the pasteurization of milk consumed on the farm would offer some measure of protection, especially to children.

*Department of Animal Industry.
†Department of Agricultural Engineering.
The Division of Farm Electrification, Bureau of Plant Industry, Soils and Agricultural Engineering, U.S.D.A. and the Department of Animal Industry, Storrs (Conn.) Agricultural Experiment Station, University of Connecticut, cooperating.

At the time that we undertook this project several pasteurizers were on the market. The units employed the conventional methods of commercial pasteurization; (1) Heating the milk to 142°F and holding it at that temperature for a period of 30 minutes or, (2) Heating the milk to 162°F for fifteen seconds. Prompt cooling is indicated for each method.

The pasteurizers using the holding principle required about 110 minutes for heating and cooling, although some of the home pasteurizers required about two hours to complete the process. The unit which operated on the shorttime-high temperature principle cooked the milk to a point of unpalatability. Conventional and swab phosphatase tests indicated that underprocessing could at times be possible.

To overcome these objections and to make use of the housewifes preference for handling milk in bottles, we decided to direct our research along the following lines:

1. Develop a rapid in-the-bottle home pasteurizer to reduce the time necessary to complete the process.
2. Make the process as completely automatic as possible.
3. Insure proper pasteurization of the top of the container above the water line.
4. Produce a product which would not taste overcooked.

We realized that we would have to break away from the conventional methods of pasteurization. To do this we had ample precedence. In 1923[2] the Connecticut General Assembly wrote into the statutes a definition of pasteurization of milk. The law stated that the

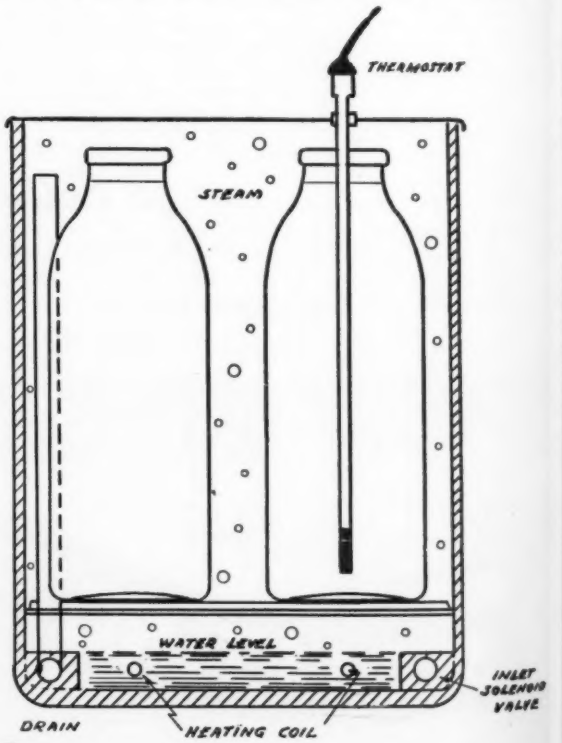


FIG. 1 Cross section of experimental pasteurizers.



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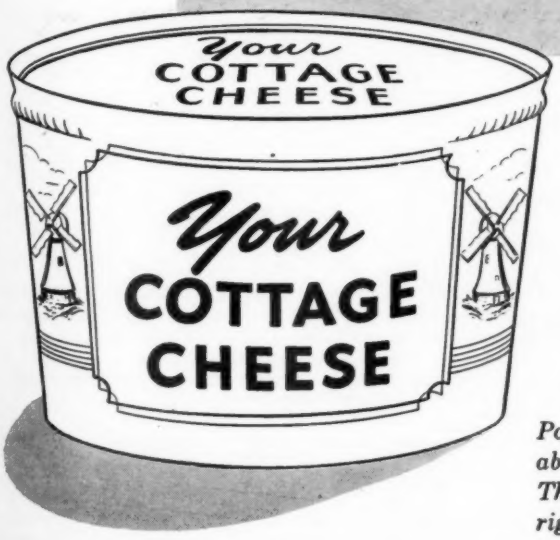
*Based on packing one thousand 12-oz. paper cups

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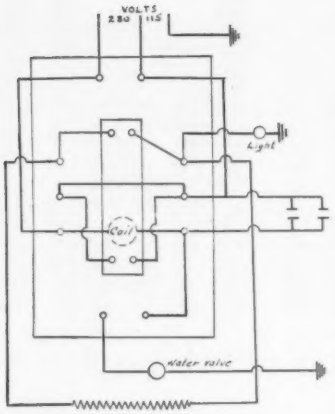


FIG. 2 CIRCUIT DIAGRAM STEAM PASTEURIZER

milk to be called pasteurized should be heated to a temperature of 143°F and held at that temperature for a period of 30 minutes. In 1935 the law was amended to specify a minimum temperature for the standard holding method of 142°F rather than 143°F, which previously had been specified. The law was further amended to define pasteurization so as to include the heating of milk to a temperature of 160°F and holding all the milk at that temperature for at least 16 seconds. The law further stated: "or any other method approved by the Commissioner." That there is a relation between time and temperature in the pasteurization of milk has been shown by Theobald Smith[3] and others[4,5,6]. We designed two home pasteurizers to take advantage of the time-temperature relationship in the destruction of pathogenic and non-pathogenic bacteria. The construction and the operating characteristics of the two units are described in this paper.

The effectiveness of the heat treatment was measured by the phosphatase test (Method II[7]) and by the Formate Ricinoleate Broth[8] test for organisms of the coliform (Escherichia-Aerobacter) group. The standard agar plate method[9] was used to estimate the bacterial colony counts. The milk was allowed to stand 24 hours at 40° to 45°F before the cream lines were determined. From the data obtained the cream volumes were calculated on the basis of milk with a fat content of 3.7 percent. All tests except those on the raw milk were made 24 hours after pasteurization. The milk was obtained from both farmer owned herds and the University herd.

### High Wattage Modified Shorttime Pasteurizer

The experimental high wattage pasteurizer was originally an eight-quart milk pasteurizer as manufactured by the H. E. Wright Company, Charlestown, Massachusetts. The tank was made of cast aluminum, rectangular in shape (Figure 1.) The single coil immersion heater in the bottom was replaced with a 5,600 watt heater designed to operate on 230 volts. The water thermostat was removed. For circuit diagram see Fig. 2.

Eight square bottles were placed on a supporting shelf which kept the bottles above the water level and also distributed the steam evenly. Two and one-half quarts of water were poured in and the heater was turned on. The cover was set in place and the control thermostat inserted in the control bottle. After a few minutes steam surrounded all of the bottles completely. When the temperature of the milk reached a predetermined degree, the heater was automatically turned off and the inlet valve opened to allow the cooling water to enter. The boiling water in the unit tempered the cold water so that no breakage occurred in the numerous test runs.

A pyrometer using iron-constantan thermocouples was used to record the temperatures attained in various parts of the bottles. Figure 3 shows the temperatures at seven different locations. The coldest area was found to be about ½ inch above the bottom of the milk bottle. This area was chosen as the control point for determining the temperature to which the milk should be heated to obtain negative phosphatase tests.

Table I shows the results obtained by pasteurizing milk with the high wattage modified shorttime home pasteurizer.

The power was cut off at temperatures varying from 135°F to 156°F as recorded at the thermocouple location, Number 2 (Figure 3). The temperature of the milk at this point coasted upwards 6.5° to 9°F after the heat was turned off before receding. From the data presented it appears that when

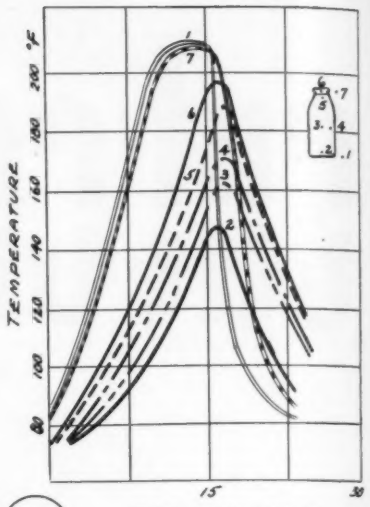


FIG. 3

the power was cut off at 140°F and the temperature of the milk coasts to 146.5°F, negative phosphatase tests were obtained in 56 trials. Above this basic temperature point all of the milk which was heat-treated in the manner described above gave negative phosphatase tests. Below the basic temperature point of 140°F erratic phosphatase results were obtained, indicating that all of the particles of milk were not sufficiently heated to yield negative phosphatase tests.

The flavor of the milk was very good until a cut-off temperature of 148°F was reached and even then the cooked flavor was not strong enough to be objectionable. At the high cut-off temperature of 156°F the cooked flavor of the milk was not noticeably unpleasant.

Figure 4 shows the time-temperature relations when the water level is raised

Table 1
RESULTS OBTAINED BY PASTEURIZING MILK WITH HIGH WATTAGE MODIFIED SHORTTIME METHOD

| —Pasteurization Temperature— Power Cut Off At | Coasted To | —Bacterial Colony Count— Raw | Pasteurized | Phosphatase Test | Flavor of Milk |
|---|---|---|---|---|---|
| °F | °F | per ml. | per ml. | | |
| 135 | 143 | 84,000 | 4,000 | + | ok |
| 136 | 144 | 40,000 | 2,500 | + | ok |
| 136 | 142 | 73,000 | 2,700 | — | ok |
| 137 | 145 | 40,000 | 50 | + | ok |
| 138 | 147 | 20,000 | 120 | — | ok |
| 138 | 146 | 35,000 | 5,000 | — | ok |
| 138 | 146 | 24,000 | 3,000 | + | ok |
| 138 | 146 | 24,000 | 800 | + | ok |
| 139 | 146 | 40,000 | 800 | — | sl. cooked |
| 139 | 146 | 40,000 | 830 | — | sl. cooked |
| 139 | 147 | 58,000 | 2,000 | — | sl. cooked |
| 139 | 147 | 4,000,000 | 300 | + | sl. cooked |
| 140 | 148 | 20,000 | 200 | — | sl. cooked |
| 140 | 146.5 | 48,000,000 | 55,000 | — | sl. cooked |
| 140 | 146.5 | 48,000,000 | 53,000 | — | sl. cooked |
| 140 | 146.5 | 1,020,000 | 3,100 | — | sl. cooked |
| 140 | 146.5 | 280,000 | 200 | — | sl. cooked |
| 140 | 146.5 | 420,000 | 300 | — | sl. cooked |
| 140 | 146.5 | 600,000 | 500 | — | sl. cooked |
| 142 | 149 | 800 | 100 | — | sl. cooked |
| 144 | 150 | 236,000 | 2,200 | — | sl. cooked |
| 146 | 152 | 130,000 | 2,000 | — | cooked |
| 148 | 154 | 45,000 | 1,800 | — | cooked |
| 150 | 157 | 20,000 | 240 | — | cooked |
| 152 | 160 | ..... | 304,000 | — | cooked |
| 154 | 162 | ..... | 247,000 | — | cooked |
| 156 | 165 | 1,000,000 | 156,000 | — | cooked |

to one-half inch from the top of bottles. No biological data are presented for this operation.

### Low Wattage Modified Shorttime Pasteurizer

Since not all farmers have 230 volt service available and would not be able to operate the high wattage unit, we next studied the operation of a low wattage unit (1500 watt, 115 volt).

Loaded with eight bottles the unit did not have sufficient steam producing capacity to pasteurize the milk in a reasonable length of time. Consequently, the hot water bath method was used. The water level was raised to within one-half inch of the tops of the bottles. The cycle of operations was the same as for the high wattage unit. The control point, however, was chosen at location "3," Figure 5. Manufacturers of milk pasteurizers stated that the longer thermostats were much harder to adjust and would probably give more trouble. Standard round bottles were used.

In both series of tests the cooling water was as cold as that found on any farm—45°F. Water warmer than this would overprocess rather than underprocess the milk.

Table 2 shows the results obtained by pasteurizing milk with the low wattage modified shorttime home pasteurizer.

The power was cut off at temperatures ranging from 145° to 160°F. In all trials the temperature of the milk coasted upwards to a maximum of two degrees before receding.

Negative coliform tests were obtained when the power was cut off at 149°F. Negative phospatase results were obtained when the power was cut off at 151°F. Cream volume reductions were definitely apparent when the power was cut off at 151°F. A definite cooked flavor did not develop until the power was cut off at 153°F. Even at the high cut off temperature of 160°F the cooked flavor was not objectionable.

### Discussion

The processes described above made use of the fact that pasteurization is a function of both time and temperature. The rates of temperature rise and fall were slow enough to indicate the possibility of using the accumulative effect of the several temperatures and time periods through which each acted. Figure 6 is a graphic representation of the process. For illustrative purposes the temperature increment chosen was four degrees Fahrenheit. Thus, 142°F is representative of the temperature interval 140° to 144°F and the time through which it acted equals $T_1$ plus $T_2$. Similarly 146° (144° to 148°F) acts through time $T_2$ plus $T_4$ and 150°F acts through time $T_3$. By making the temperature

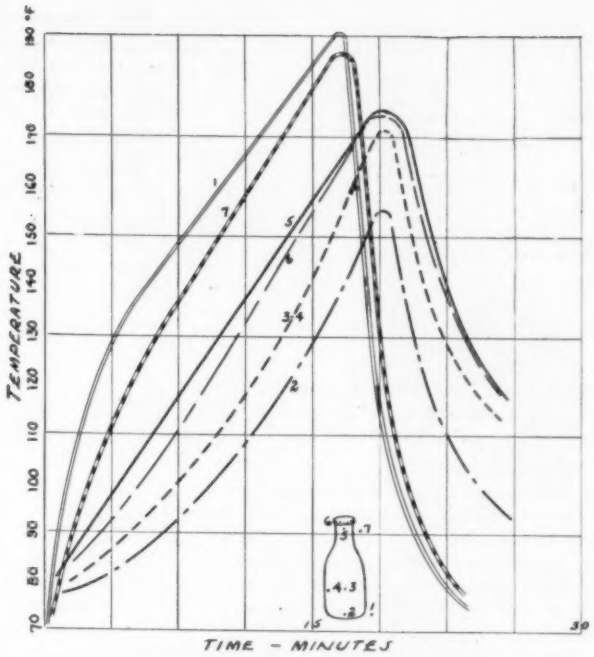


FIG. 4

Time-temperature chart of high wattage (hot water bath) pasteurizer.

increments smaller and smaller the values would approach the figure obtained by using calculus on the equation of the curve.

Had it been possible to follow a small unit of milk as it rose and fell due to convection currents, its temperature could have been recorded and a numerical figure given for the above calculations in which each temperature would have been weighted according to its pasteurizing effect. For example, pasteurizing milk at 160°F is 30 minutes ÷ 15 seconds or 120 times as effective as 142°F. The additive figure obtained by such calculations could logically be termed, "Effective Degree Minutes." The calculations of these values will be given in another paper.

The accumulated effect of the time-temperature relationship during the rise and fall of the temperature of the milk seems to be more than sufficient to meet some of the requirements of pasteurization—to destroy disease producing organisms and to yield negative phosphatase tests.

The work of Theobald Smith[3], Russell and Hastings[4], and M. J. Rosenau[5] showed that 140°F for 20 minutes is adequate to destroy tubercle bacilli and other pathogenic organisms. It may be

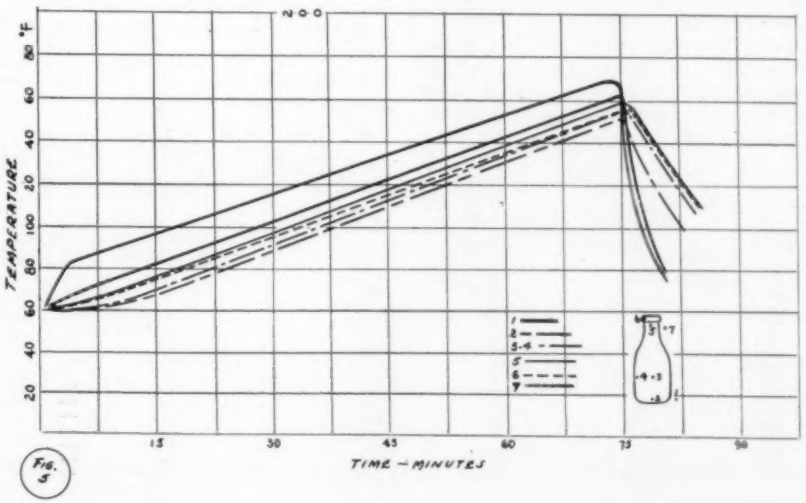


FIG. 5

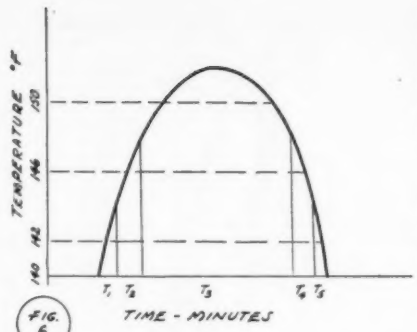


FIG. 6

said that on this floor of temperature and time relationship the foundation of modern pasteurization was laid.

North and Park[10] in 1927 studied various temperatures and time combinations in the pasteurization of milk inoculated with Mycobacterium tuberculosis. They found that the thermal death points of Mycobacterium tuberculosis was 10 minutes at 140° and 142°F, six minutes at 145°F, two minutes at 150°F and 30 seconds at 155°F.

Dahlberg[6] effectively showed that pasteurization is a function of both time and temperature by plotting the temperature against the logarithm of the required time.

To operate with a margin of safety, to insure properly pasteurized milk as indicated by the phosphatase test, it is recommended that the low wattage milk pasteurizer be operated with the power to be cut off at 154°F or over. It is recommended that the high wattage milk pasteurizer be operated to cut off the power at 142°F or over to allow a margin of safety.

The temperatures employed in both pasteurizers were high enough to insure the heating of the milk bottle cap and the air in the bottle to eliminate contamination from these sources. With the high wattage pasteurizer the temperature of the cap reaches 197°F and the air reaches 192°F. In the low wattage pasteurizer thermocouple measurements of the air and the milk bottle cap temperatures indicated readings higher than the milk temperatures at the control point (156°F Maximum). By placing a vented metallic foil covering which extended into the water over the bottle and cap, the air and cap temperatures ran 10°F higher.

A comparison of the time requirements of the high wattage (steam) pasteurizer with the conventional low wattage holding type of pasteurizer is shown in Figure 7.

A photograph of the pasteurizer as commercially manufactured is shown in Figure 8.

## Summary

1. The development of a high wattage and a low wattage home pasteurizer is described.

2. In the high wattage (steam) pasteurizer the bottle cap is completely surrounded by steam. Therefore, the temperature of the cap reaches 197°F and that of the air between the cap and the milk level reached 192°F. This insures proper pasteurization of the air and the condensate under the cap.

3. In the low wattage (hot water bath) pasteurizer thermo-couple measurements of the air and bottle cap temperatures indicated readings higher than the milk temperatures at the control point.

4. To allow for a margin of safety it is recommended that the shut-off temperatures be adjusted as follows: High wattage—142°F or over; Low wattage—154°F or over.

5. The high wattage unit steam reduces the conventional pasteurization time from about 110 minutes to about 35 minutes.

6. The low wattage unit (hot water bath) reduces the conventional pasteurization time about twenty minutes.

## References

1. The Hartford Times, 3/10/48. Hartford, Connecticut.
2. Correspondence with H. Clifford Goslee, Department of Farms and Markets, State Office Building, Hartford, Conn.
3. Theobald Smith, Jour. Exp. Med. V. 4, 1899.
4. H. L. Russell and E. G. Hastings, Wis. Agr. Exp. Sta. 17th Ann. Rpt., 1900.
5. M. J. Rosenau, "The Milk Question," Houghton-Mifflin Co., New York, 1912.
6. A. C. Dahlberg, N. Y. (Geneva) Agr. Exp. Sta., Tech. Bull. 203, 1932.
7. Standard Methods for the Examination of Dairy Products. Eighth Edition, American Public Health Association, pp., 266-269.
8. ibid. p. 78.
9. ibid. p. 14.
10. Charles E. North and H. Park, Am. Journ. Hyg. V. 7, 1927.

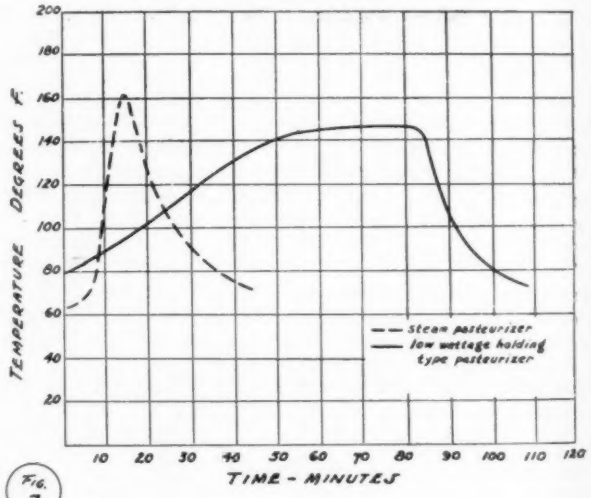


FIG. 7.

Table 2

RESULTS OBTAINED BY PASTEURIZING MILK WITH LOW WATTAGE MODIFIED SHORTTIME METHOD

| Power Cut Off At | Trials | —Bacterial Colony Count— Raw | Pasteurized | Phosphatase Test | — Coliform Test — Raw | Pasteurized | Cream Volume Based on 3.7% Butterfat | Flavor | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| °F | No. | | | | | | Per Cent | | |
| 145 | 8 | 5,000 | 1,800 | + | X | — | 13.1 | Not cooked | |
| 148 | 32 | 61,300 | 11,400 | + | + | + | 15.6 | Very sl. cooked | |
| 149 | 32 | 65,000 | 12,000 | + | + | — | 14.3 | Slightly cooked | |
| 150 | 16 | 270,000 | 55,000 | + | + | — | 13.4 | Slightly cooked | |
| 151 | 48 | 240,000 | 8,000 | — | + | — | 12.3 | Slightly cooked | |
| 152 | 48 | 827,000 | 12,000 | — | + | — | 12.5 | Slightly cooked | |
| 152.5 | 8 | 4,500 | 1,500 | — | + | — | 13.4 | Slightly cooked | |
| 153 | 16 | 164,000 | 9,000 | — | + | — | 13.9 | Definitely cooked | |
| 154 | 8 | 240,000 | 10,000 | — | + | — | 11.2 | Definitely cooked | |
| 155 | 16 | 8,000 | 1,400 | — | + | — | 10.5 | Definitely cooked | |
| 156 | 8 | 245,000 | 4,000 | — | + | — | 10.4 | Definitely cooked | |
| 157 | 8 | 30,000 | 6,000 | — | — | — | 8.7 | Definitely cooked | Cream Line Indistinct |
| 158 | 8 | 30,000 | 4,000 | — | — | — | 11.8 | Definitely cooked | |
| 159 | 9 | 35,000 | 3,000 | — | — | — | 9.4 | Definitely cooked | |
| 160 | 8 | 210,000 | 5,000 | — | + | — | 4.3 | Definitely cooked | |

X=Not Done.



XUM

# The next time you hear voices —LISTEN!

IT MAY BE your conscience speaking.

It may be saying: "Save some of that money, mister. Your future depends on it!"

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Remember—better *save* than *sorry!*

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# DAIRY PRODUCTS AND THE TARIFF

## State Department Report Gives Complete Picture of Concessions Granted and Obtained Under the Geneva Tariff and Trade Agreements

*A few months past the* American Milk Review *carried a story on the Geneva Tariff and Trade Agreements. Since that time there has been considerable wailing at the wall over the possible injury that the agreements will do to the dairy industry. Your editor has always held that whatever concessions were made at that historic meeting were insignificant alongside of the tangible and intangible benefits derived. We are happy to have this opportunity to present once again and in more detail the exact status of dairy products under the agreements.*

•

SINCE 1940 THE UNITED STATES has been on an export basis with respect to dairy products. Exports in 1947 were about 25 times as large as imports.

Imports of dairy products have consisted largely of certain types of cheese, which are not directly competitive with the bulk of domestic production. Butter imports have been insignificant during the last 20 years except during the United States drought period 1935-37. United States exports have been made up principally of condensed, evaporated, and powdered or dried milk.

When industry is expanding and there are high levels of employment, the market for dairy products in this country becomes stronger. As long as national income continues high, the demand for all dairy products in the United States will continue strong.

Cash farm income derived from dairy products has increased greatly in the last few years. In 1939 this cash farm income from dairy products amounted to $1,346 million; in 1946, $3,716 million; and in 1947, $4,086 million—as compared to $986 million in 1932.

In the General Agreement the United States granted duty concessions on fresh milk and cream, dried milk and cream, butter, and certain cheeses. Among the concessions on dairy products granted by other countries are tariff reductions on condensed and evaporated and dried skimmed milk and milk foods.

### Fresh or Sour Milk and Cream

In the General Agreement the duty on fresh or sour milk was reduced from 3¼c to 2c per gallon on imports not to exceed 3 million gallons a calendar year. Imports in excess of this amount are to be dutiable at 6½c, the rate provided for in the Tariff Act of 1930. No ad valorem equivalents have been computed for the specific duty on milk imports because of the insignificant quantities of milk imported (400 gallons in 1939 and 400 gallons in 1947). Total United States production of milk approached or exceeded 12 billion gallons during the 1930's and since 1942 has exceeded 14 billion gallons.

The duty on cream has been reduced from 28.3c to 20c per gallon on imports up to 1.5 million gallons in any calendar year. Cream imports in excess of 1.5 million gallons will be dutiable at 56.6 cents, the rate established in the Tariff Act of 1930. The ad valorem equivalent of the 28.3c rate was about 19% when applied to the 137,000 gallons of cream imported in 1937, the only year since 1930 in which cream imports were appreciable. No cream was imported in 1946 and only 6 gallons were imported in 1947. United States production of cream for consumption in 1946 was calculated at 506 million gallons.

Imports of both milk and cream have been exclusively from Canada and have entered the United States for consumption in fluid form. Because of the inspection laws in various states in this country, the amount of both milk and cream imported into the United States have been and are limited. For example, New York State will not admit milk unless it is inspected at its source of production, and no means are provided for inspecting milk produced in Canada.

### Condensed and Evaporated Milk

In the General Agreement the United States reduced the duties on unsweetened and sweetened condensed and evaporated milk (case goods) from 1.8c to 1 c and 2.75c to 1.75c respectively. The duty on all other condensed and evaporated milk (in bulk) has been reduced from 2.53c to 1.5c per pound. The ad valorem equivalent of the duty on sweetened condensed milk in 1939 was 49.5%. Prior to the war United States imports of unsweetened condensed milk were so small that the calculation of an ad valorem equivalent would lack significance. There have been no imports in the bulk since 1938.

Total domestic production of unsweetened condensed milk amounted to 2.5 billion pounds in 1939, 4.4 billion pounds in 1945, and 3.6 billion pounds in 1943. Total production of sweetened condensed milk amounted to 244 million pounds in 1939 and 1,004 million pounds in 1946.

Imports of these three classes are usually unimportant. Since 1930 imports of unsweetened condensed have been insignificant, and imports of sweetened case goods, although much larger, have also been unimportant. Bulk goods were imported during the 1935-37 drought period when domestic production declined. Since 1930 the combined imports of

### ICE CREAM GROUP HONORED

For its retail store sanitation program the Association of Ice Cream Manufacturers of New York State was awarded first place in the State and Local Class of The 1948 American Trade Association Executive Awards Contest. The shortage of trained personnel during the war years, and of refrigeration and other equipment, had brought about a let-down in sanitation standards. The association worked out a detailed program of education and action as to the some 16,000 dealers served by the organization members.

Close coordination was effected with State and city health authorities. Schools of food sanitation were arranged for, as part of a 10-point campaign of research, education, cooperative advertising, and consumer relations.

In a variety of ways the manufacturers and retail distributors cooperated so energetically, under association guidance, that widespread public approval was won and sales increased markedly.

these three classes have exceeded 1 million pounds in only 1936 and 1937. In 1946 imports of all three classes totaled only 2,300 pounds.

Before the war the United States was on an export basis with respect to condensed and evaporated milk, exporting 25-30 million pounds annually. During the war these milk exports increased greatly, exceeding 500 million pounds in some years. In 1946 United States exports of both sweetened anl unsweetened amounted to 1,017 million pounds, chiefly to the U.K., Greece, Italy, France and Cuba.

### Dried Milk and Cream

Under the General Agreement the reductions made in the rates of duty on the products falling within this paragraph are as follows: dried whole milk, from 6 1-12 to 3 1-10c per pound; dried cream, from 12 1-3 to 6 1-5c per pound; and dried skimmed milk, from 3 to 1½c per pound. The 1½c per pound rate on dried buttermilk was bound. The ad valorem equivalents of the specific rates of duty in 1939 were 14% on dried whole milk, 109% on dried skimmed milk, and 25% on dried buttermilk. There were no imports of dried cream in 1939.

United States production of dried whole milk increased from the 1935-39 annual average of 19 million pounds to 217 million pounds in 1945. In 1946 and 1947 production declined, amounting to 188 and 162 million respectively. Imports of dried whole milk have been quite small, totaling 3,000 pounds in 1939 and 297 pounds in 1946. Exports ranged from 2 to 6 million pounds a year prior to the war, and in 1946 were 146 million pounds.

United States production of dried skimmed milk averaged about 243 million pounds in the period 1935-39, and amounted to 653 and 676 million pounds in 1946 and 1947. Imports of this product have been small and irregular. (865,000 pounds in 1939 and 315 pounds in 1946, and no imports in 1947). Exports, small before the war (2 million pounds in 1939) equalled 237 million pounds in 1943 and 168 million pounds in 1946.

Domestic production of dried buttermilk declined during the war from the 62 million pounds produced in 1939 to 38 million pounds in 1946 and 42 million pounds in 1947. Imports of dried buttermilk, of which Canada is the principal supplier, amounted to 1.5 million pounds in 1939 but have been nil for several years (except for entries amounting to about 50,000 pounds in December 1945). United States exports are not separately reported.

United States production of dried cream was 567,000 pounds in 1946, a great increase over the 1939 production of 49,000 pounds. Exports are not separately reported and imports have been nil.

### Butter Duty Reduced

In the General Agreement the duty on butter was reduced from 14c to 7c per pound on imports up to 50 million pounds in the period November 1 to March 31 inclusive. Imports in excess of this amount in the period November 1-March 31, and imports in other periods of the year, are bound at 14c per pound. In 1939 the ad valorem equivalent of the 14c rate was 57%, and in 1946, 18.2%. 50 million pounds of butter equals about 2.26% of total domestic production (creamery and farm production combined) in 1939 and 3.05% in 1947. This November-March period coincides with the off-season production period in the United States, thereby supplementing U. S. butter availabilities. The domestic producer is safeguarded against excessive imports at the lowered duty by the quota limitation.

Except for a few abnormal periods, imports have been insignificant. Since 1930, imports have been usually less than one-tenth of 1% of domestic production. The exceptions were

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1920 when 38 million pounds were imported (the largest quantity on record and about 2% of domestic consumption in that year) and the drought period 1935-37 when imports averaged 14 million pounds annually. In 1935-37 imports, large because of the drought in the U. S. and depressed prices on the London market, amounted to slightly more than 1% of domestic production.

### Shipments from New Zealand

Imports come principally from New Zealand, with smaller amounts from Denmark. Imports from New Zealand will be limited in the foreseeable future since New Zealand's entire exportable butter surplus is under firm contract with the U. K. until 1950. Australia's exportable surplus is also under contract with the U. K., New Zealand, and Australia normally export nearly all of their butter to the U. K., which has been and probably will continue to be, the world's largest import market for butter. New Zealand and Australia export to the U. S. only when U. S. prices exceed London prices by more than the U. S. duty. In the past this has seldom happened, except during drought periods in the U. S. Argentine supplies are limited and of poor quality. Danish supplies are sent largely to the U. K.

### EVER TRY IT PICKLED?

NOBODY (BUT NOBODY) can argue the "low-cost roughage" advantages with Sheldon Anton, La Porte City, Iowa.

Not too long ago, Mr. Anton noticed a lump on the side of one of his Holstein cows. Shortly the lump ruptured and the next day Mr. Anton was amazed to find 12 inches of fork handle projecting from the cow's side.

It was not possible to pull out the handle because a knob at the end prevented it from passing between the cow's ribs. He sawed off the 12 inches and took the cow to the Lames' veterinarian hospital at Dysart. A local anaesthetic was administered and the doctor removed the remainder of the handle by surgery from between the 8th and 9th ribs.

Total length was 21 inches all told. Mr. Anton bought the cow at a sale in November and is certain the handle was swallowed prior to his purchase.

The cow was purchased by Jay Rice of Brandon, Iowa in the South St. Paul stock yards before Anton acquired her. She freshened in January and has been producing well ever since, "low-cost roughage" or no. At the present time she is getting along fine, still producing well.

The U. S. is the world's largest producer of butter, with production averaging 2.2 billion pounds annually during the 1930's. Peak production was reached in 1933 with 2.3 billion pounds valued at $461 million. Production decreased in 1935-37 because of the drought, but by 1939 production again amounted to 2.2 billion pounds valued at $548 million. Production has been smaller since the war than prior to it, although the value was at an all-time high in 1947. U. S. production amounted to 1.5 and 1.6 billion pounds, valued at $916 and $1,121 million respectively in 1946 and 1947. There are several reasons for this decline. During the war butter was rationed and consumption was restricted. Since then, increased quantities of milk and cream have been sold for consumption as fluid milk and cream and for ice cream and cheese production.

The USDA has reported that farmers in the West North Central States have been slaughtering dairy herds because of present high meat prices thereby reducing the January 1 number of cows 10% from 1940 to 1948. As domestic butter prices have risen, some consumers have switched to margarine. In 1947, when the average Chicago Wholesale price for 92 score was 70.6c, 2.3 pounds of butter were consumed to on pound of margarine, while in 1935-39, when the average Chicago wholesale price for 92 score butter was 29.3c per pound, 7.3 pounds of butter were consumed to one pound of margarine.

During some years in the 1930's, imports exceeded exports; in other years exports were larger than imports. Exports amounted to 100 million pounds valued at $42 million in 1943, 25 million pounds worth $11 million in 1945, and 11 million pounds valued at over $8 million in 1947.

### London Prices A Factor

Contrary to the fear that relatively small amounts of butter imports might depress domestic butter prices, it should be noted that in the past imports have entered the U. S. only in response to high domestic butter prices—that is, when U. S. domestic prices were high relative to London prices by more than the U. S. duty. This divergence between U. S. and London prices has only happened when U. S. prices were unusually high, as in the drought period.

The fact is that if imports should depress domestic butter prices, this would automatically stop imports because it would bring domestic butter prices more in line with London butter prices, with the result that New Zealand, Australian and Danish butter would immediately find it more profitable to resume their normal shipments to the United Kingdom. It is for this reason that over a period of thirty years, when domestic butter prices are low, imports are insignificant (See attached table).

The variation in the volume of the domestic production of butter from year to year has been far greater, and has affected the volume of domestic supply far more, than has the yearly variation in the volume of imports. As long as the domestic market and the domestic demand for butter continues strong, domestic butter prices will be strong. If domestic demand should increase only 3.05% over the 1947 butter production, this would mean an increase in the domestic demand equal to the entire tariff quota of 50 million pounds. Actually, production increased 136 million pounds from 1946 to 1947, and average butter prices increased from 61.8c to 70.6c from 1946 to 1947. The General Agreement, by stimulating a general expansion of international trade, will contribute towards the maintenance of a strong domestic market for all products, including butter.

### Cheddar Cheese Affected

In the General Agreement the U. S. reduced the duty on cheddar cheese—not processed otherwise than by division into pieces—from 4c per pound but not less than 25% to 3½c per pound but not less than 17½% ad valorem. In 1939 the specific rate, at which 75% of the imports entered this country, was equivalent to 30%. During and since the war because of price increases the ad valorem rate of duty has generally applied.

Cheddar, or American cheese, is the most commonly used cheese in this country. U. S. consumption of Cheddar and the products made from it—spreads, blends, and processed cheese marketed in small packages— has been increasing for a number of years. This trend is expected to continue as long as national income remains high.

Domestic production normally supplies nearly all (98% or more) of the Cheddar consumed in this country. U. S. production amounted to 497 million pounds in 1937; 542 million pounds in 1939; 876 million pounds in 1945; 804 million pounds in 1946; and 959 million pounds in 1947. The principal producing states are Wisconsin and New York. The

average wholesale price for Cheddar on the Wisconsin cheese exchange was 35.1c per pound in 1946 and 36.1c in 1947, as compared to 12.8c per pound in 1939.

### Imports Have Fallen Off

Imports amounted to 11 million pounds in the peak year 1936 and were equivalent to 2% of domestic production. Imports amounted to 6 million pounds in 1939 and to only 20,000 pounds and 21,000 pounds in 1946 and 1947 (imports in both 1946 and 1947 equivalent to .002% of domestic production). Imports have come principally from Canada. The bulk of Canadian Cheddar is aged longer than most of that produced in the U. S. and a considerable part of it is used in domestic processing.

There is little prospect that Cheddar imports into the U. S. will be large for the next several years. Prior to the war Canadian exports to the U. K., the world's largest importer of cheeses, were approximately 80 million pounds annually. New Zealand's exports to the U. K. were about double

U. S. PRODUCTION, IMPORTS AND EXPORTS, IN MILLIONS OF POUNDS OF MILK EQUIVALENT, ARE AS FOLLOWS:

| Year | Domestic Production | Imports | Imports as Percent of Production | Exports |
|---|---|---|---|---|
| 1929 | 99.121 | 1.120 | 1.1 | 374 |
| 1939 | 106.651 | 592 | .6 | 186 |
| 1940 | 109.334 | 336 | .3 | 633 |
| 1941 | 114.970 | 273 | .2 | 2.645 |
| 1942 | 118.416 | 640 | .5 | 4.467 |
| 1943 | 117.335 | 301 | .3 | 5.444 |
| 1944 | 117.548 | 137 | .1 | 6.695 |
| 1945 | 120.995 | 169 | .1 | 4.554 |
| 1946 | 119.285 | 344 | .3 | 4.905 |
| 1947* | 118.892 | 167 | .1 | 3.899 |

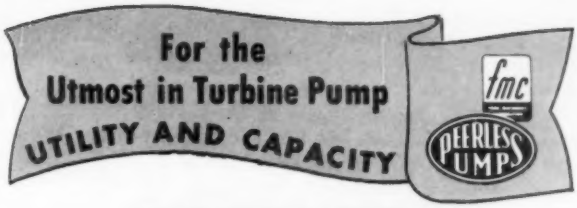
*Preliminary.

those of Canada, although New Zealand's export of butter was and is more important than that of cheese. New Zealand's exportable surplus of Cheddar until 1950 is under contract for export to the U. K. Since the end of the war Canada has been unable to meet the commitments in its contracts with the U. K. calling for the export of 125 million pounds of Cheddar annually. Present contracts which Canada has with the U. K. call for the export of 50 million pounds (1948-49).

Before the war there were small, but comparatively steady, exports of cheese and cheese products (practically all Cheddar) from the U. S. In the pre-war period exports were normally around 2 million pounds annually. U. S. cheese exports, however, amounted to 187 million pounds in 1946, and 177 million pounds in 1947.

### Miscellaneous Cheeses

*Edam and Goudia:* In the General Agreement the duty reduction on Edam and Gouda cheese has been limited by a further breakdown in the tariff description of this type of cheese to imports which are less directly competitive with the bulk of U. S. production of Edam and Gouda. This simply means that the duty of 5c per pound with an ad valorem minimum of 25% was bound on Edam and Gouda containing less than 40% butterfat; but, a reduction was made on Edam and Gouda containing *more* than 40% butterfat from 5c per pound but not less than 25% advalorem to 3½c per pound but not less than 15% ad valorem. In 1939 the ad valorem equivalent of the specific duty was 40%. Imports, principally from the Netherlands, have been dutiable mostly at the ad valorem rate since the war. Domestic production of Edam and Gouda increased during and since the war. Although production figures are not reported separately for Edam and Gouda, it is believed that production of these cheeses accounts for over 50% of the domestic production of "all other cheeses." ("All other cheese" production in 1939 was 12 million pounds; 1946, 53 million pounds; and 1947,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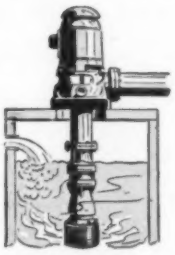

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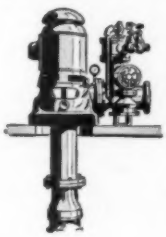

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27 million pounds.) Imports declined from 3 million pounds in 1939 to 927 thousand pounds in 1946 to 441 thousand pounds in 1947.

*Bryndza:* In the General Agreement the duty on Bryndza was reduced from 7c per pound but not less than 35% to 3½c per pound with a minimum of 17½%. This type of cheese is not produced in the U. S., but is made almost entirely in the Carpathian Mountains from sheep's and goat's milk. Imports have been small, valued at only $4,100 during the period April 16 to December 31, 1938.

*Roquefort:* In the General Agreement the U. S. reduced the duty on Roquefort cheese, which is not produced in the U. S., from 5c per pound but not less than 25% to 3c per pound with a minimum duty of 15%. Imports of Roquefort are almost entirely dutiable at the ad valorem rate of duty. Roquefort, because of its premium prices, appeals to only a limited group in this country. Imports into the U. S. from France amounted to 2,973,937 pounds valued at $729 thousand in 1939; 297,180 pounds, at $294 thousand in 1946; and 407,464 pounds, at $323 thousand in 1947.

*Blue-mold:* The duty on blue-mold cheese in original loaves, of 5c per pound but not less than 25% ad valorem, was bound in the General Agreement. The ad valorem equivalent of the specific rate in 1939 was 30%. Blue-mold cheese, frequently characterized as being Roquefort is made from cow's milk rather than sheep's milk as is Roquefort. Different curing processes are utilized in the production of these two types of cheese. U. S. production of blue-mold has been increasing. In 1943, the first year in which separate production statistics were kept, blue-mold production amounted to more than 8 million pounds. In 1946 production was almost 13 million pounds and in 1947 totalled more than 11 million pounds. Imports of blue-mold cheese came to 3 million pounds valued at $566 thousand in 1939; 531 pounds, at $207, 1946; and 522 pounds, at $259 in 1947.

### Export Concessions

Under the General Agreement, foreign countries reduced their rates of duty on many items of interest to exporters of dairy products. Among these are the following concessions:

Brazil made a 50% reduction in its duty on powdered milk, while Burma bound the duty and reduced the preference on condensed or preserved milk and cream. Canada bound the duty on condensed and powdered milk, and reduced the rate on milk foods 20%. Ceylon bound the duty-free status of milk foods and refrigerated, preserved, condensed, sterilized or powdered milk.

In 1946 Ceylon imported from the U. S. Rs. 2,838,000 worth of milk foods and Rs. 965,000 worth of milk products (in 1946 1 Rupee worth $.3019). China, whose pre-war imports from the U. S. of evaporated, condensed, or dried milk and milk foods were significant, granted a 20% reduction on these products.

### From Havana to Karachi

Cuba, an important market for U. S. dairy products, bound the duties on sweetened or unsweetened condensed, evaporated, or concentrated milk and cream, powdered milk, and malted milk. The duty on skimmed milk was reduced 2 pesos.

At times of milk shortages in Cuba, as in 1947, U. S. dairy exports enter that market free of duty. India and Pakistan, significant importers of dairy products from the U. S., have reduced the duty on condensed or preserved milk and bound the duty-free status of dried skimmed milk. The U. K. has bound the duties on sweetened and unsweetened condensed milk, as well as the duty on powdered and other preserved milk. Newfoundland bound the duty-free status of preserved, sterilized or condensed milk and cream and powdered milk, and granted a substantial reduction in the tariff on milk foods and other like preparations.

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## *If It's Not One Thing—*

**Cornell Soil Scientists See High Organic Matter Necessary With Increased Mechanization on Farms**

ITHACA, N. Y.—THE CHANGE from horses to horse power on the farms of New York State has increased the danger of soil abuse.

This is the conclusion of soil scientists, George R. Free, John Lamb, Jr., and Everett A. Carleton, of the U. S. Soil Conservation Service who have been working in cooperation with Cornell University's Agricultural Experiment Station. They have just completed a study of the effects of organic matter and erosion on soil packing.

The most important finding, according to Dr. Lamb, project supervisor, is that the packing and permeability of soils under mechanically applied forces is associated with organic matter.

Dr. Lamb pointed to the increasing erosion in many localities as evidence that soil is being mismanaged.

A soil low in organic matter, Dr. Lamb said, when subjected to the compacting force equal to the rubber tire of a two-plow tractor, may pack to a point that water will move through the soil very slowly. On the other hand, organic matter protects the subsoil against compaction. The amount of organic matter and intensity of the packing force help determine the amount of moisture the soil can hold.

Soils that were included in the study where Honeoye silt loam from near Syracuse, Bath flaggy silt loam from the Ithaca area, Ontario sandy clay loam from Geneva, and Sassafras silt loam from eastern Long Island. The packing force used in the tests was equal to a tractor or an empty truck.

### Results Cited

Here are some of the results from the experiments: For each of the soils studied, the sample which showed the highest degree of packing was lowest in organic matter.

These high organic matter soils could be worked with considerably higher moisture content before compacting the same amount as the soils low in organic matter.

What determines the packing of the soils, Dr. Lamb reported, are the size and kind of compacting forces, the moisture content of the soil, the amount of compaction of the soil at the time the compacting forces act on it, and the more stable characteristics such as texture and organic matter.

"With more and more heavy equipment coming onto our farmlands today, we need to be more concerned than ever about maintaining a high organic-matter content in the soil," the soil scientist advised.

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## *Owens-Illinois Appoints*

Toledo—William E. Levis, Chairman of Owens-Illinois Glass Company, has announced the appointment of Philip B. Niles, as Public Relations Director of the Company effective May 1. Mr. Niles, who will be located at the Company's general offiices in Toledo, Ohio, was formerly connected with the American Water Works Company in the capacity of Vice President, resigning that office to join Owens-Illinois Glass Company on March 1st.

# National Dairy Council Summer Session Offers Fine Program

### Dr. Margaret Ohlson and Dr. P. C. Jeans Head Impressive List of Speakers Who Will Address NDC Personnel

NATIONALLY KNOWN authorities from the fields of research, nutrition and education will appear on the program of the Summer Conference of the National Dairy Council June 14-16. Sessions, which are closed to the representatives of commercial organizations, will be held at the Edgewater Beach Hotel, Chicago. Staff directors and personnel from 50 affiliated units of the National Dairy Council, from all parts of the country, will attend.

Details of the Conference were announced by National President Milton Hult, who declared:

"We feel that this vital education program of ours, in both its national and its local aspects, will receive added impetus and meaning through this summer's conference. That is indicated in the caliber of our program speakers and participants."

The opening morning, Monday, June 14, will be devoted to research. Dr. Margaret A. Ohlson, head of the department of foods and nutrition at Michigan State College, will give "A Resume of New Developments in Nutrition Research." Dr. P. C. Jeans, of the department of pediatrics at the State University of Iowa, will discuss "The Application of Research to Infant Feeding."

A discussion will follow these two addresses.

New Dairy Council educational materials will then be presented and discussed.

Two luncheons will be held the first day—a general luncheon, and the annual President's Luncheon.

Monday afternoon's session concerns an all-important theme, "Coordinating Dairy Council Programs."

In this E. W. Tiedeman, of the Central Grade A Cooperative at Appleton, Wis., who is chairman of the National Dairy Council's executive committee, will serve as chairman. President Hult will discuss the national program of the Dairy Council. Frank Allen Smola, NDC educational director, will discuss the local programs of affiliated units. Both he and President Hult will outline ways and means of coordinating the two program levels.

A secondary aspect of program coordination, relating to financing, will be discussed by Neal D. Kelley, assistant to President Hult. Assistance to affiliated units and operational plans will be stressed.

Monday's activities will end with a reception, at which entertainment features will be provided.

Consumer education, a vital element in the Dairy Council programs, nationally and locally, will receive detailed attention Tuesday.

"The Role of the Parent in a Community-Wide Health Education Program" will be discussed by parents. One of the speakers will be Reynolds C. Seitz, a resident of Wilmette, Ill., a lawyer and radio speaker who is an editorial executive of the Chicago Daily News.

"Is the Teen-ager Really Indifferent?" will be then discussed by Beryl Walter, home and food editor of Seventeen Magazine, New York City.

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# DAIRY INDUSTRY DOWN UNDER

**Australian Dairymen Examine Their Enterprise in Light of Developments in Foreign Countries — See American Standards Ahead of All Others**

AN IMPORTANT INFLUENCE in bringing to producers a realization of how they stand in relation to dairymen in other countries is a report by representatives of the Australian industry who visited various dairying countries last year.

Some of the outstanding impressions they brought back were that the orderly marketing methods in force in Australia which eliminated cut-throat competition were well in advance of marketing organizations in most other countries. Mechanization had advanced tremendously in Australia during the war and in this respect the industry stood up well to comparison with progress overseas. Probably a third of the industry had gone over to milking machines.

But in general dairying practice Australia had a considerable leeway to make up to reach overseas standards. The United States of America was ahead of all other countries. In Australia staffs of State agricultural bodies had been depleted during the war and both research and practical application of the results of research had lagged, but these were now being built up again.

Herd recording was not widespread in Australia. In the leading dairying state of Victoria, about 10 per cent of the cows were recorded. This compared unfavorably with Great Britain and the Continental dairying countries. The investigators have recommended extension of herd recording and the centralization of vital statistics to enable maximum use to be made of herd sires capable of transmitting high productive capacity. The establishment of artificial insemination centers is proposed.

### Butter Production

Two apparently conflicting aims are being put before the Australian dairy farmer at present. The first and most pressing objective is to step up the production of butter exports as a contribution to the dire needs of Great Britain.

Due to various unfavorable factors, butter production was down to 143,000 tons in 1946-47, pre-war production being 200,000 tons. Butter rationing has been continued in Australia and a ban has been clamped down on the sale of table cream to keep up the butter exports. And as a result of oversea investigations, three types of continuous process butter making machines—the Alfa Laval (Swedish), the Senn (Swiss), and the "New Way" (Australian) are to be tested in Australia.

The development of the industry has always been based on the butter and cheese export trade and the aim to raise butterfat content of milk has been a dominating influence. Recently, however, prominent dairymen have been talking of the economic advantages of promoting the maximum consumption of whole milk.

### Whole Milk Consumption

Mr. G. C. Howey, a member of the Australian Dairy Produce Board, and one of the investigators, said: "The future prosperity of our industry is wrapped up in our ability to persuade the consuming public to use more whole milk—as liquid milk, cream, and ice cream."

*Reprinted from an article that appeared in the April Issue of the "Dairyman".*

In their report, members of the delegation asserted that their outstanding impression was the increase in whole milk consumption in almost every country they visited. There was evidence that this was a deliberate policy. Australia's consumption of 213 pints a head annually compared unfavorably with that of other dairying countries (Canada 381; America 342; Denmark 360; Holland 338). It had meant a cut in in butter consumption in America, but Canada provided a pointer to what could be done, as her high milk consumption had been achieved while consumption of butter was maintained at a level comparable with Australia's 32 lbs. a head.

There is obviously no conflict between this aim and the present determination of the industry in Australia to do its utmost to relieve Britain's plight. Dairymen are solidly behind the drive, as indicated by the industry's support for the ban on cream sales. The proposal for developing the home milk market, which offers the greatest return to dairy farmers, is a long-range view of the industry's future.

### Use of Skim Milk

Another sidelight on this subject discussed by Mr. Howey is the use of skim milk. Dairy farmers in Australia send 80 per cent of their milk as cream to the butter factories, using the skim milk to feed their pigs.

Mr. Howey reminds producers that milk contains about two pounds of skim milk solids for every pound of butterfat. At present prices of dairy products are based almost entirely on the cost of butterfat, with the result that the Australian industry is basing its entire economy on only a third of what it produces.

"Australia produces approximately 2,800,000 tons of raw skim milk each year," says Mr. Howey. "Less than 24,000 tons is processed and the products into which it is converted are worth about £132,000. It should be possible within ten years to increase this value to £3,500,000. There is not one country in the world in which the general physical condition of the people could no be improved by a greater use of skim milk products."

Dairying in Australia is still enduring the combined effects of droughts and severe labor shortage. To these factors is attributed the steady decline in the number of dairy cows in milk from 2,600,707 in 1939 to 2,227,022 in 1947 (total in milk and dry 3,200,000). Production of whole milk is down to 1,061,300,000 gallons from 1,189,174,000 gallons in 1938-39. Efforts are being concentrated on rehabilitating the herds and recovering the lag in production.

### Climatic Conditions

The dairying industry is largely confined to the better watered regions of the east coast and the south, though by a system of mixed farming it has been extended to many non-coastal and thinly-grassed districts where fodder can be grown to carry the stock through the lean months.

Australian dairymen enjoy the great advantages of a temperate climate. The fact that stock can be left in the open throughout the year reduces operating costs and the amount of labor needed on farms. When hand feeding becomes necessary in certain districts, the fodder is given in the fields.

Costs of production, stock, and land are considerably lower than in other dairying countries.

### Operate on Large Scale

An average Australian dairyman operates on a larger scale than his counterpart overseas. The average size of the herds that form the basis of the industry is around 30, against 15 to 18 in the United States, 12 in Britain, and 8 in Denmark.

While both the northern States of Queensland and New South Wales carry more milking cows than any other States, it is the small southeastern State of Victoria with its congenial climate and well-balanced pastures of rye grass, cocksfoot, and subterranean clover, that easily leads in dairy production.

Dairymen in this State, as well as those in other southern States, cling to the Jersey breed, which comprises 70 per cent of the herds, with Ayrshires, Illawarra shorthorns, dairy shorthorns, Guernseys, and Friesians following in that order. But the northern States are the home of the Illawarra shorthorn, a popular breed evolved in Australia over 50 years ago by selective crossings of the Ayrshire with the milking shorthorn.

Australian breeders have always been influenced by the industry's constant urge to achieve the highest possible butterfat content rather than a high milk production. Victoria has currently attained the highest average milk production of 452 gallons, with a butterfat content of 261 lbs. in herd recording.

State supervised tests almost invariably bring out this relation between milk production and butterfat. In a 273 days test (1942-43), a consistent Victorian Guernsey gave 15,000 lbs. of milk from which 976 lbs. of butterfat was produced.

### Dairy Industry Legislation

The Australian dairying industry has worked in close contact with the Government research agencies and marketing organizations. State interest has been practical and farseeing, and dairymen acknowledge the part played by those bodies. All States, at an early stage, introduced legislation for the registration, inspection, and supervision of dairies, dairy farms, dairy produce stores, milk depots, dairy cattle, grazing grounds, and butter and cheese factories, and the legislation is strictly enforced.

Subsidies which are, in reality, a carry-over from the war period, are maintained to spur production. There was a period early in the war when dairymen, facing unprecedented demands for their production, were struggling under increasingly adverse seasonal conditions.

The Australian Commonwealth Government came to their aid with asubsidy on butterfat produced. It started at 1,500,000 lbs. a year and went up to 7,000,000 lbs. in 1944 making dairying the most heavily subsidized industry in Australia.

Subsidies are being maintained still at the rate of about 4,250,000 pounds a year. For the improvement of farm practices in the industry the Government recently approved an annual grant of up to 250,000 lbs. a year for five years.

Since the invalidation before the war of a compulsory Government marketing scheme the industry has been operating under an efficient voluntary equalization plan. In essence its effect is that local and export trade is distributed in equitable portions among manufacturers by means of fixed quotas. Basic prices are fixed and returns to manufacturers are equalized from the equalization fund.

●

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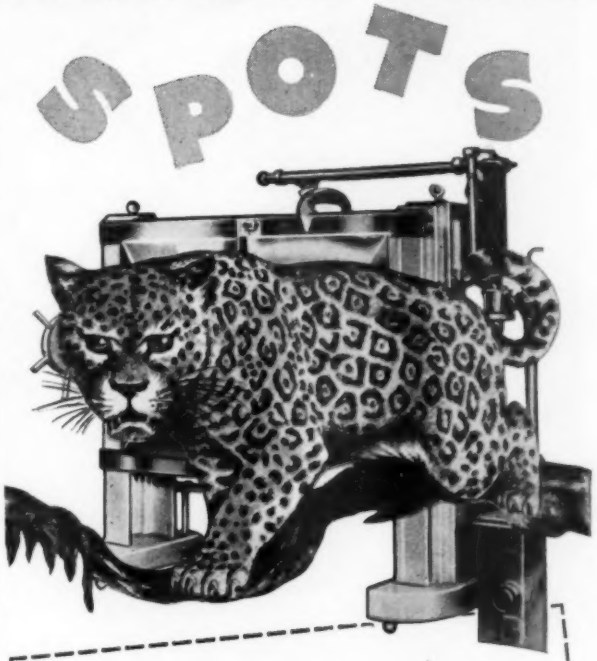

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DR. ROBERT F. HOLLAND

# Problems of the Industry

DR. JAMES C. WHITE

*Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.*

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### Flake Buttermilk

**QUESTION—Our problem is how to get flakes in cultured buttermilk without having it float on top. What apparatus should be used and how much fat added?**

**J. M. P., Pennsylvania.**

ANSWER—Thank you for your letter and your question regarding buttermilk processing.

With regard to your problem, we have experimented with three methods of producing flakes in the cultured product. The first is the trough or sieve method. The second is the spray method, wherein melted butter is sprayed into the buttermilk by means of an ordinary hand-operated fly spray gun. The third method of incorporating flakes is by churning a small part of the buttermilk for a few minutes until small pinhead butter particles have formed. In the case of the first two methods we have added between one-half and one pound of melted butter per 100 gallons of buttermilk, depending on the quantity of flakes desired. We have not, however, considered either of these two methods of adding melted butter to be entirely satisfactory because the sieve method, regardless of the size of holes, produces flakes that are generally too large and which tend to rise to the surface in the bottle. The spray-gun method, on the other hand, often produces flakes which are too small to be readily observed by the consumer.

We have, therefore, concentrated on the churning method and find it very satisfactory in all regards. The way we handle it is as follows.

In making 100 gallons of buttermilk, we ripen 9 cans of skim milk in our regular buttermilk vat, and the tenth can, containing 2-4 per cent of fat, is ripened separately in the can. As soon as the proper acidity is reached, and we like about 0.65 per cent, this can of milk containing the fat is dumped into a small barrel churn, a few drops of butter color added to give a brilliant orange tint to the butter flakes, and this is churned until butter granules about the size of a pinhead appear on the glass of the churn.

This churned material is then dumped in with the bulk of the buttermilk and agitated gently until it is thoroughly mixed. This gives a product in which the granules do not rise to any extent and wheying off is kept at a minimum, because only a small part of the buttermilk is agitated by churning.

You may have tried and rejected this method, but I think with a little experimenting you will find it to be highly satisfactory and less messy and time consuming than either the sieve or spray method.

### Cheese Acidity and pH

**QUESTION—I have been an interested reader of your column in the *American Milk Review* and would like your advice on a problem concerning the making of Mazzarella cheese. We have been testing our Mazzarella cheese by the usual hot water test and are going to buy a pH machine to use for this purpose. We would appreciate it if you could send us tables which would show us at what reading on this machine we will be able to work on cheese and make a good product. We believe this machine should make it possible for us to produce good cheese with less time and trouble.**

**P. F., New York.**

ANSWER—We do not have any information from which we can draw up a table which would show acidity on a pH machine. We think it probable, however, that this could be done, but you must remember certain things about the determination of pH when you consider such a table.

When you measure temperature or heat, you have two factors to consider. One is the intensity of the heat which you measure with a thermometer, and the other is the amount of heat which you measure in calories or B.T.U. For instance, you can have a very high intensity of heat but little quantity, as in the filament of a light bulb where the temperature is very high but the quantity of the heat is quite small. The opposite extreme could be illustrated by the Gulf stream where there is a very large quantity of heat flowing toward the European shore, but the intensity of that heat is very low, perhaps three or four degrees above the surrounding water.

The same situation exists with respect to acidity. You have two measurements again. The titration with the lye solution gives you a measure of the quantity of acid present, but the pH machine measures the intensity of the acid that is present and you can have very high intensity with very small quantities or very large quantities with low intensity, so that the direct relationship is not there.

You will have to use your pH machine on several batches of Mazzarella in order to determine the proper pH for work-

ing. We would suggest that you run your standard hot water test on samples on which you have determined the pH electrometrically. You will then find out what is the proper pH range for working and can set up your own table which will be very useful to you. With a little experience, it is probable that you will be able to get uniform results on all batches of the curd coming into your plant.

If this information is not complete enough, please feel free to call on us at any time.

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## Sees Need For Information

### Educator Declares American Public Should Be Acquainted with Factors Relating to Milk Prices

THERE ARE MANY POINTS relating to milk prices on which the public should be better informed, according to Prof. K. M. Autrey, head of the Department of Dairy Husbandry at the University of Alabama.

"One of these is the fact that the increase in cost of all foods from 1939 to 1947 was over 100 per cent," he said, "while during the same period the increase in fluid milk costs was just over 60 per cent.

"Another important consideration," says Professor Autrey, "is the margin of profit on which our milk industry operates. One national survey indicates that most Americans consider 10 to 15 per cent on sales as a fair profit, and yet six of our nation's principal milk distributing companies made only 1 per cent net profit on sales during the six-year period ending in 1946.

"In large cities of the U. S. only transportation and banking companies earned less per dollar invested than milk companies in 1946. Below is a comparison of net profits in per cent of sales for representative groups of companies throughout the United States for the period 1941-1946:

| | |
|---|---|
| Fluid milk | 1.0% |
| Chain food stores | 1.2% |
| Department stores | 3.4% |
| Tobacco | 4.9% |
| Other food products | 5.0% |
| Brewing, distilling, soft drinks | 5.1% |
| Drugs and soap | 8.4% |

"A third and very pertinent consideration is how much the housewife gets in return for each food dollar spent. Even at 30 cents per quart, fluid milk would be a better buy from the standpoint of nutritive value than such products as round steak, eggs, beans and tomatoes, etc.

"The following table gives a comparison of common foods at present-day prices from the standpoint of value received for money spent. Note that with milk at 22 cents per quart, the only three foods out of the list which are cheaper than milk are bread and potatoes.

| | *Food Value in 1 Qt. Milk Equals | *Price 1 Qt. Milk (22c) Will Buy |
|---|---|---|
| Tomatoes @ 20c lb. | 75.8 oz. | 17.6 oz. |
| Eggs @ 77c doz. | 8.6 eggs | 3.4 eggs |
| Chicken @ 65c lb. | 13.2 oz. | 5.4 oz. |
| Fish @ 60c lb. | 19.6 oz. | 5.9 oz. |
| Round steak @ 72c lb. | 13.6 oz. | 4.9 oz. |
| Ham @ 95c lb. | 7.7 oz. | 3.7 oz. |
| Snap beans @ 30c lb. | 40.3 oz. | 11.7 oz. |
| Bread @ 16c lb. | 7.0 oz. | 20.0 oz. |
| Potatoes @ 6c lb. | 20.1 oz. | 58.7 oz. |

(*Computed on basis of edible solids. For reference see "Table of Food Composition," prepared by Bureau of Human Nutrition and Home Economics, USDA, in cooperation with National Research Council. USDA Misc. Pub. 572, 1945.)

"We realize, of course, that in the long run the law of supply and demand should work to the benefit of the consumer; but in any event we believe that the so-called milk-consuming public should be fully cognizant of the facts in the matter of price increases, relative food prices and food values."


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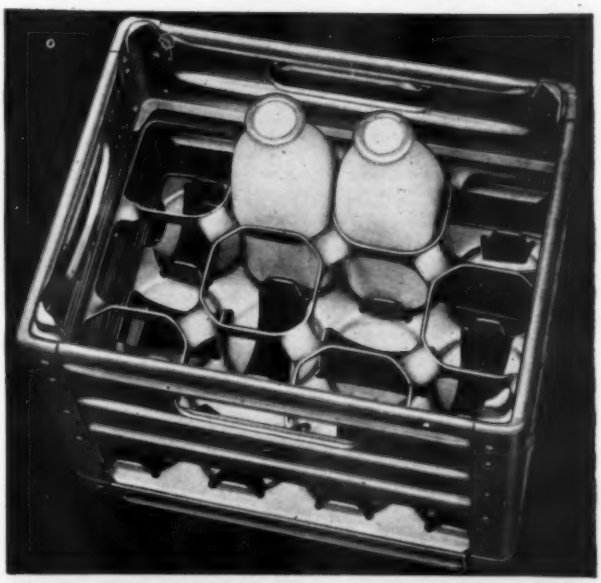

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## Quarantine Line Moved Again

### Foot and Mouth Disease Is Yielding Before Energetic Attack of New Approach

A SECTOR OF THE NORTHERN QUARANTINE line maintained across Mexico by joint Mexican and United States forces to prevent the spread of foot-and-mouth disease is being moved farther southward, the U. S. Department of Agriculture announced today.

The action reduces the size of the quarantined area by more than 1,000 square miles and increases the distance between that sector of the quarantine line and the Mexican-United States border as much as 40 miles in some places. The action taken is the second of its kind in about 6 weeks. The new area freed from quarantine is triangular in shape, and is bounded approximately by lines between three cities—San Luis Potosi, Aguascalientes, and Zacatecas.

Extensive veterinary inspections of susceptible livestock within that area revealed no signs of foot-and-mouth disease nor was there any evidence that it previously existed there. The change in the line relieves livestock owners and others in that area from the inconvenience of quarantine restrictions. It also straightens out a salient in the line.

The action was taken by the joint Mexican-United States Commission in charge of the control and eradication campaign, with the concurrence of the U. S. Department of Agriculture and two members of the Department's Foot-and-Mouth Disease Advisory Committee, who were in Washington at the time. The members were A. K. Mitchell, of New Mexico, chairman of the committee, and C. E. Weymouth of Texas. These men, representing extensive United States livestock interests, expressed to Dr. B. T. Simms, chief of the Animal Industry, their general satisfaction over the new development in the campaign.

Another recent action, likewise meeting with their favorable response from an industry viewpoint, is the participation of three Department scientists in the production of foot-and-mouth disease vaccine by foreign laboratories. Some of the vaccine produced with the aid of these scientists, L. O. Mott, H. W. Johnson, and E. A. Eichhorn, is now enroute to Mexico for use in the control of the disease.

Recent approval, by President Truman, of legislation authorizing the U. S. Department of Agriculture to conduct foot-and-mouth disease research on a coastal island (for greater safety) enables Department scientists to step up their plans for fundamental studies of this disease. Rough plans for buildings and facilities have already been prepared and several research projects formulated.

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## USDA Workers Honored

EIGHTY NORTHEASTERN employees of the Production and Marketing Administration received awards this week for more than 20 years service with the U.S. Department of Agriculture. Many of them in standardization and regulatory work are widely known in the food trade industry.

Pins and certificates were awarded at a ceremony in New York City, May 3rd, to those with headquarters in the city. Employees at other locations were given the awards at their home stations. In addition, recognition was extended to some 150 PMA workers for 10 or more years of service.

Lone 40-year man was Parker J. Bollman, now assistant officer in charge of the grain branch office in Baltimore, Md. Mr. Bollman entered USDA in 1908, and has been in grain inspection work since.

The following employees, by commodity groups, received awards:

GRAIN BRANCH: 30 or more years of service: Harold Anderson, in charge, Baltimore office; Philip Rothrock, in charge, New York City office; James P. Stanfield, in charge, Philadelphia, Pa., office. Twenty or more years of service: John N. Arndt, Philadelphia; Stanley T. Bursztyn, Buffalo, N. Y.; William M. Chelf, Albany, N. Y.; John J. Dwyer, Buffalo; Michael B. Gleason, Boston, Mass.; Harmon L. Hebler, Baltimore; Charles R. Holter, Philadelphia; John E. Kraus, Buffalo; John T. Pugsley, Hoboken, N. J.; John B. Sattler, Baltimore.

LIVESTOCK BRANCH: 30 or more years of service: Thomas R. Ennis, insecticide division, Baltimore, Md.; Clyde F. House (retired), market news, New York City; William J. Irwin, packers and stockyards division, New York City; Wilford H. Norris (retired), grading, New York City; Joseph F. Scanlon, grading supervisor, New York City. Twenty or more years: John C. Bubb, insecticide division, New York City; John A. Burgess, market news, New York City; Earle S. Higgins, grading, Boston, Mass.; Lester C. Jennings, packers and stockyards, New York City; Albert H. Keener, packers and stockyards, New York City; Charles F. Walker, packers and stockyards, New York City; William W. Wheeler, national supervisor, market news and grading, New York City.

DAIRY AND POULTRY BRANCHES: 20 or more years of service: Louis F. Champlin, market news, New York City; Norman A. Dakin, market news and grading, Boston, Mass.; Lester Reekie, grading, New York City; Russell S. Smith, market news, New York City.

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## Boost Ice Cream As Food

### North Dakota Dairy Association Sec'y Sees High Nutritive Value in Nation's Favorite Food

WE ALL REMEMBER THE RYTHMIC BARK of the circus crier: "You Scream! I scream! We all scream —for ice cream!" And to every American, ice cream is a word of happy memories—of licking the freezer dasher on a shady farmhouse porch on a summer Sunday, ice cream cones at a church picnic in a grove, ice cream sundaes with The One Girl in The World, back at a drug store soda fountain in high school days.

However, says John Burnham, executive secretary of the North Dakota Dairy Industries association, we always associate ice cream with palatability—taste—and with its easy availability. Now science, which gets to everything if just given time enough, comes forth in pontifical tones to tell us that we should eat ice cream for health.

Ice cream has been a pleasant part of the American diet for 100 years, said Burnham, but until comparatively recent years no actual knowledge of its nutritive value was known.

"In the past," said Burnham, "statements concerning the food value of ice cream were based mainly either on a general consideration of its ingredients, or a summation of the nutrients in the individual ingredients.

"The National Dairy Council began the study a decade

ago. First it was necessary to agree upon a general formula for the ice cream mix. The council used a standard commercial formula of 12 per cent milk fat, 10 per cent non-fat milk solids, 15.5 per cent sweetening, 0.3 per cent gelatin, and 0.2 per cent egg solids. Incidentally, North Dakota law says ice cream must contain, as a minimum, 12 per cent milk fats —same as listed above—and most ice cream made and sold in this state actually is richer than that—often around 14 per cent. This makes for a richer, more tasty product.

"By 1944," continues Burnham, "quick and reliable chemical methods for determining nutrients in foods had been developed, and in May of that year the validity of calculated figures for the food value of ice cream was tested by actual analysis, and recent tests throughout the U. S. and Canada were made in 1946 and 1947," said the Dairy Industries spokesman.

The most recent information gives the nutrient content of 100 grams (about one-sixth quart) of an average commercial vanilla ice cream as follows:

| | | | | | |
|---|---|---|---|---|---|
| Calories | 206 | gm. | Iron | 0.120 | mg. |
| Protein | 3.85 | gm. | Vitamin A | 548 | I. U. |
| Fat | 12.06 | gm. | Thiamine | 0.038 | mg. |
| Carbohydrate | 21.31 | gm. | Riboflavin | 0.326 | mg. |
| Calcium | 0.122 | gm. | Niacin | 0.098 | mg. |
| Phosphorus | 0.105 | gm. | Ascorbic Acid | 0.0 | |

North Dakota commercial ice cream plants produce over three million gallons of this well-balanced and nutritious dessert annually, and with minor exports and imports just about balancing each other, it is probable that the state's production and consumption are about the same, Burnham says.

In 1946 the state's production was 3,081,000 gallons—which figures out to about 27½ quarts per year for each man, woman and child in the state. "That's better than a pint a week, with a pint apiece extra on Christmas, Memorial Day and Fourth of July," Burnham concluded.

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## JUNE IS DAIRY MONTH

*(Continued from Page 7)*

tion for June Dairy Month by Mayor O'Dwyer and a number of special events that include historic exhibits.

The New York metropolitan area consumes daily about 4,000,000 quarts of milk, of which 65 per cent is sold through retail outlets, the remainder being delivered to the home. New York City, incidentally, is the world's largest market for heavy cream.

To handle the 4,000,000 quarts of milk sold in the metropolitan area, the industry employs 15,000 persons in pasteurization and distribution of milk and 4,000 in its office forces. The milk furnished by some three-quarter of a million cows on farms of New York, Pennsylvania, New Jersey, Massachusetts and Vermont, is sold to the distributors by some 46,000 farmers. The New York milk shed extends to distances as far as 450 miles. The milk from the farther areas comes to the city by express train.

In 1947 the milk pool totaled 6 billion pounds and represented payments to farmers totaling $246,000,000.

The health requirements of the New York metropolitan area are very rigid in their nature and very rigidly enforced. The distributors in New York are certain that the milk they sell is the finest available anywhere. Incidentally, many of the health requirements in New York City with regard to milk are the result of practices already initiated by the distributors.

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# THE CORRESPONDENTS REPORT

## CALIFORNIA

*By JOHN BREVIT*

PASTEURIZATION HAS CAUSED an open controversy over milk distribution in the city of San Francisco. Certain milk companies, which have successfully challenged the pasteurization ordinances of other California cities, have made application to distribute milk in San Francisco while pasteurizing their milk elsewhere and have met with a stern refusal. Dr. J. C. Geiger, city health director, indicated that anyone intending to distribute in San Francisco would have to comply with the ordinance. The ordinance, in effect, demands that companies intending to distribute milk here must also pasteurize their milk within city limits. The Challenge Cream & Butter Association has recently overcome similar pasteurization ordinances in Santa Rosa and in the Santa Clara Valley but, in making exploratory moves toward the San Francisco market, has enjoined the "free flow" argument to no effect thus far. The local ordinance is upheld by the State Supreme Court in the Klimn decision. The only way the ordinance can be cancelled is by action by the Board of Supervisors or through another Court action. Smaller San Francisco distributors are generally opposed to the "free flow" contention; they insist that such long-distance distribution, costing more, will eventually increase consumer prices.

Meanwhile, producer-distributors of Santa Clara and San Jose are holding meetings with local grocers to discuss the invasion of their markets by large Oakland and San Francisco milk distributors. Local distributors hope to thus present their case before their retailers. However, since both Challenge and Marin Dell, the two bay city distributors extending into the Santa Clara Valley, are strictly wholesale and do not compete with grocers, the local distributors' case is difficult. Frank Tissier, secretary of the San Francisco Retail Grocers Association, indicated that members would be influenced by customer demand: grocers would handle any good milk if the customers wanted it. Well-advertised brands coming into a district do create customer demand. Mr. Tissier further thought that such "free flow" policy will have a tendency to break down prices.

Milk producers of southern and central California have a more optomistic attitude now that the rains, which began around the first of April and are continuing, have raised water levels to their proper marks. Feed, however, will continue high in price. Alfalfa acreage for 1948, for instance, is down 10 percent from 1947 production. This means a loss of between 100,000 and 200,000 tons of green alfalfa. The higher figure will hold if acreage yield is down even one-tenth of a ton per acre because of the recent drought. While deep-well irrigated sectors of southern California are not affected as yet, water conservation is very necessary, lest more water be pumped out than is added to underground supplies by rainfall.

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## MID-WEST

*By ROBERT KANODE*

COLUMBUS, OHIO—RISES in prices of feed and farm production costs will cause farmers to increase the cost of milk sent to dealers during April, Columbus milk dealers have been notified.

A spokesman for the milk dealers said this situation is unusual for this time of year. Usually an increase in production during the early summer months means lower prices.

The price Columbus dealers will be required to pay for April milk under a federal order regulating milk marketing in this area is $5.06 per hundred pounds for Class 1, which is used in bottling. This is two cents higher than the March price and $1.20 higher than the price in April, 1947.

Present price for standard milk in Columbus is 19 cents, an increase of two cents over last year. The farm prices announced under the federal order indicate comparable high levels for milk used in other forms and in other dairy products.

At the same time a price cut of one cent per quart retail was announced by milk dealers in the Bucyrus and Galion areas some 50 to 60 miles north of Columbus, bringing the retail qutations down to current Columbus figures.

A local elimination contest to select a girl finalist to be entered in the "Ohio Dairy Queen of 1948" will be held June 10 at the Virginia Hotel under sponsorship of the Columbus Junior Chamber of Commerce.

All girls in metropolitan Columbus over 18 years old are invited to submit entry blanks. Judging will be in street dress on the basis of beauty, poise and personality. Entry blanks will be made available from milk route salesmen.

The Columbus winner will receive a cash prize of $50 and be entered in the state contest. The state winner will receive $250 and $10 per day plus traveling expenses for sponsored appearances in various Ohio cities as the representative of the Ohio Dairy Industry during Dairy month in June.

Miss Evelyn Priddy, Pickerington, Ohio beauty was winner of the 1947 contest. The new "queen" will be selected June 18 at the RKO Palace Theater in Columbus.

Ohio pasture conditions are again showing normal seasonal improvement after a temporary setback during the middle of April due to unusually heavy rains which caused serious flood conditions in the southern portion of the state, along with Kentucky and Indiana.

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## TEXAS

*By JIM TAGGART*

AMARILLO, TEXAS—Plans for a new Plains Creamery plant to cost $500,000 have been announced by A. F. Madison, vice-president and general manager of the company here. The plant will cover a square block of city property.

Contract for the first units, a warehouse and garage, has been let to Walter Wirtz, Amarillo general contractor. Work will begin immediately. Guy Carlander, Amarillo, is the architect.

Plains Creamery, which started as a $5,000 corporation in 1933, now is capitalized at $300,000. J. Lindsey Nunn is president and together with Gilmore Nunn, a son, also is a director. The Nunns, now living in Lexington, Ky.,

are owners of the radio station KFDA, Amarillo, and several stations in Kentucky.

The plant will be 146 x 140 feet, of brick and steel construction, with warehouse and garage 100 x 120 feet.

Plains also operates creameries at Pampa and Borger.

●

## NEBRASKA

*By EMMETT CURRY*

CLARENCE SWITZER, manager of the Cheese Factory at North Loup, Neb., died unexpectedly in a Grand Island, Neb., hospital. He was a veteran of World War 1. He had moved to North Loup from Wisconsin six years ago and had managed the cheese plant five years.

Dale N. Stewart of Madison has been re-elected president of the American Dairy Association of Nebraska.

Other officers renamed in the annual meeting in Lincoln were Orrill Rasmussen of Lincoln, vice-president, and L. K. Crowe, also of Lincoln, secretary and treasurer. The association made plans for dairy month observance in June.

The Omaha (Neb.) Dairy Council elected Harry Grobeck, president of the Grobeck Dairy Company, president at the annual meeting. He succeeds Howard Brockmyer, manager of the Fairmont Foods Company plant in Omaha.

Elected vice-president was Paul W. Jens of Mineola, Ia. He is president of the Nebraska-Iowa Co-operative Milk Producers Association. Two other association officers were named. Otto Pfeiffer, secretary, was elected dairy council president, and Carl W. Hansen was renamed council secretary.

An Omaha dairy firm official proved a potent political novice in Omaha's City Council primary election.

John Rosenblatt, general wholesale and export sales director of the Roberts Dairy Company, Omaha and Lincoln, Neb., and Sioux City, Ia., ran third highest in a field of 100 candidates seeking the 14 nominations. A sports advocate, Mr. Rosenblatt campaigned for completion of the city stadium. He ran alone in the primary, but is a member of a seven-man slate for the finals. It is his first political venture.

Carl L. Dilts, vice-president in charge of eastern sales for Fairmont Foods Company, Inc., of Omaha, Neb., died April 28 in New York City. Death was caused by a heart ailment.

Mr. Dilts had been with Fairmont since 1910. He took the eastern post from the managership of the firm's big Cleveland (O.) branch. Mr. Dilts maintained his home in Cleveland. Services and burial were May 1 in Cleveland.

●

### BOUQUETS TO GENERAL MILLS

St. Paul—For promoting the sale of dairy products through its advertising in 1947, General Mills, Monday, received from the American Dairy Association a special award and citation at a luncheon sponsored by the Minnesota Dairy Industry Committee in the St. Paul Hotel.

Leslie N. Perrin, president of General Mills, received a plaque from D. T. Carlson of Willmar, past president of the dairy association, and W. S. Moscrip, president of the Minnesota committee.

The citation paid tribute to General Mills "for unique accomplishments of special significance to the dairy farmers of America in the advancement of greater enjoyment of good eating and better nutrition through wider use of dairy foods."

The award was made by a national committee composed of Paul Willis, president of the Grocery Manufacturers of America; Myrna Johnston, food editor of Better Homes and Gardens; Sidney R. Rabb and Richard S. Rush, Super Market Institute; Richard S. Shapira, American Weekly; and Glenn R. Grife, Red Owl Stores, Inc.


# More Cooling Power Per Dollar Invested

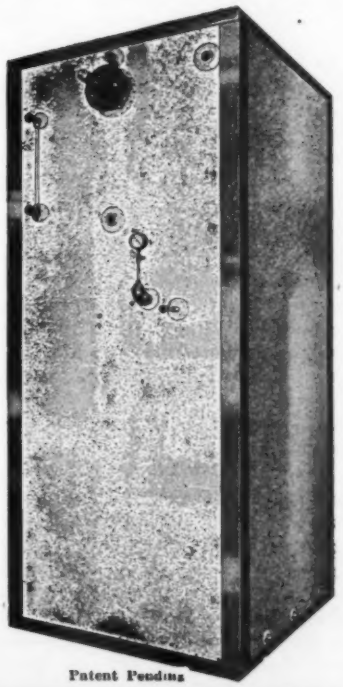
## "King Zeero"

## ICE BUILDER

**GREATER DEPENDABILITY • INCREASED CONVENIENCE**

Profit by the experience of hundreds of milk plant operators who have discovered that the "King Zeero" Ice Builder affords the ultimate in economical efficient dependable product protection. Yes, the "King Zeero" is low in initial cost and inexpensive to operate, but under the slick, trim exterior is concentrated the cooling power of tons of ice . . . ready to cool your entire production . . . anytime of the day.

The "King Zeero" Ice Builder utilizes a comparatively small compressor that performs for you all the time it is running . . . either helping cool water for current use or producing ice to be used in the future. Cooling capacity of this small compressor is multiplied many times because cooling loads are handled by a combination of melting ice and FLASH EFFECT. Temperatures lower than 32° attained by adding calcium chloride or other cooling point depressants.



Patent Pending

*Write for Bulletin No. 74*

## THE KING ZEERO COMPANY

*1447-55 Montrose Ave.* *Chicago 13, Ill.*

## NEW COMMITTEES FOR ADA

Chicago—New ADA committees for the year ahead were announced today by Bryce S. Landt, Wisconsin Dells, Wis., president of the American Dairy Association, at the first meeting of the recently elected administrative committee. Membership of the new committees follows:

ADMINISTRATIVE: Bryce S. Landt, chairman; C. R. Schoby, Bode, Iowa; W. J. Swayer, Gurnee, Illinois; W. L. Hendrix, Boise, Idaho; Dr. Robert Prior, Seattle, Washington; B. F. Beach, Adrian, Michigan and Wm. J. Murphy, Bismarck, North Dakota.

ADVERTISING: C. R. Schoby, chairman; Walter C. Moore, Denver, Colorado; George F. White, Homer, Louisiana; Wm. J. Murphy; H. M. Stanley, Skaneateles, New York; Fred H. Suhre, Columbus, Indiana and Dale N. Stewart, Madison, Nebraska.

MEMBERSHIP: W. J. Swayer, chairman; W. S. Moscrip, St. Paul, Minnesota; Arthur L. Thelin, Sioux Falls, South Dakota; B. A. Thomas, Louisville, Kentucky; Lloyd H. Stinnett, Stillwater, Oklahoma and M. R. Moomaw, Canton, Ohio.

RESEARCH: Dr. Robert Prior, chairman; Professor W. H. E. Reid, Columbia, Missouri; Harry E. Dodge, Topeka, Kansas; Merrill N. Warnick, Pleasant Grove, Utah; Dr. J. A. Nelson, Bozeman, Montana; E. E. Anderson, State College, New Mexico.

PUBLICITY: B. F. Beach, chairman; Matt Jennings, Nashville, Tennessee, W. L. Hendrix; Frank Hettwer, Mt. Angel, Oregon; Joe Whitmore, Wheatland, Wyoming.

●

## TRAVEL CREDIT SYSTEM

A new credit covenience for business travelers which makes it unnecessary for them to carry cash for transportation and hotel expense has been developed by Commercial Travel Credit System, Inc., 20 North Wacker Drive, Chicago.

Business men whose companies use the plan are issued C.T.C. Travel Checks. The traveler makes out these checks as he needs them in the exact amounts required for transportation or hotel accommodations. These checks are handled like ordinary bank checks and are paid by the Central National Bank in Chicago, which renders the financial service for the system.

The C.T.C. Travel Check System is designed to take care of emergencies that arise when business men are away from home or need to make unexpected trips that require considerable cash. Instead of cash, C.T.C. Travel Checks are used. These checks are made out as easily as an ordinary bank check. Those authorized to use the system are furnished checks and identification without charge. There are no forms to fill out and nothing to cause delay.

For the protection of those using the system, the amounts of the individual checks are limited, the checks reading "Not good for more than $50.00, $100.00 or $200.00."

From a banking standpoint, the Commercial Travel Credit System creates a unit credit plan for most types of travel service. The principles underlying the operation of the plan may be applied to other types of credit transactions where a unit system would seem desirable.

●

## TRIBUNE WINS ADA AWARD

The American Dairy Association, representing five million dairy farmers, this week presented its first annual distinguished service award to Mary Meade,

Owen Richards, general manager of the American Dairy Association, presents the groups first annual distinguished service award to Mary Meade, home economics editor of the Chicago Tribune.

home economics editor of the Chicago Tribune and her staff. Miss Meade received the award from Owen Richards, general manager of the association. The Tribune home economics staff was commended for its efforts in aiding "the setting of a finer table in maintaining the American standard of living."

Mary Meade (Ruth Lovrein Church) heads a department of four assistants who test recipes and provide much of the thorough research which assure authoritative cooking news in the Tribune. Miss Meade studied home economics and journalism at Iowa State College, Ames, Ia., where she edited a monthly home economics publication, "The Iowa Homemaker."

●

## HOLDS TWENTY DAIRIES

Toronto, Ontario—C. H. Meek, chairman of the Ontario Milk Board, this week said about 20 dairies have been told "they leave themselves open to legal proceedings" if they continue to refuse producers the price increase set by arbitration last December.

Letters were sent to the dairies and they have been given five days from the mailing date to pay producers, Mr. Meek added.

The Hamilton dairies involved still decline to pay the increase for the 13-day period between last Dec. 18 and this New Year unless forced to do so by court order, T. H. Ward, secretary of the Hamilton Milk Distributors Association, said this week.

He charged the order to pay increases as of last Dec. 19th is a "distinct violation" of an agreement by which the milk board set the New Year as the date the increase was to be effective.

A spokesman for the London, Ont. district distributors said they "are standing pat on their legal rights" when told they might face court action.

London area distributors take the stand that they are not bound by the bargaining agreement for increase of 55 cents to $3.90 a hundredweight.

Meanwhile, more than 300 district milk producers received December checks from dairies—all for $3.60 a hundredweight. They were accepted under protest, producers said.

●

## THATCHER GLASS CHOOSES

The Annual Meeting of the Thatcher Glass Manufacturing Company, Inc., was held at the company's office at Elmira, N. Y. More than 80% of the stock was represented in person or by proxy.

The following persons were re-elected as directors to serve for the coming year: Jervis Langdon, Ray W. Niver, William H. Mandeville, Frederick W. Swan, to represent the preference stockholders; Lewis H. Durland, T. Clifford Hayes, Franklin B. Pollock, F. K. Rodewald, S. G. H. Turner, to represent the common stockholders.

The proposal to amend the company's charter to provide for cumulative voting for directors submitted by a stockholder was defeated by a vote of 366,083 against and 44,149 for.

At a Board of Directors meeting which followed the Annual Meeting, the following officers were re-elected for the current year:

Franklin B. Pollock—President
William H. Mandeville—Vice President and Chairman of the Executive Committee
F. K. Rodewald—Executive Vice President
Raymond K. Boeckman—Vice President in Charge of Plant Operations
David R. Parfitt—Vice President in in Charge of Sales
Whitney S. Powers—Secretary and Treasurer
F. Raymond Minard—Assistant Secretary and Assistant Treasurer

### SEES PEAK EMPLOYMENT

Washington, D. C.—In a forecast issued here April 25, Ewan Clague, Commissioner of the Department of Labor Statistics, stated that the number gainfully employed in the United States is expected to reach this summer the highest total ever recorded, exceeding the 60,000,000 record chalked up in 1947.

Mr. Clague pointed out that March employment was estimated to have stood about 1,000,000 above the same month a year ago, and gave his opinion that "if, during the coming spring, the economy merely follows the normal seasonal pattern of increases in construction and agriculture and declines in the textiles and apparel industries, it is obvious that early this summer employment will reach a new peak."

Spending on the ERP and defense measures recently adopted or on the way "have so far had no direct impact upon the demand for labor," Mr. Clague stated, but anticipation of the effect of these measures on the economy "has tended to stimulate buying."

●

### CITES HIGH OFFERS

Toronto, Ontario—United States' buyers are offering Canadian milk producers "dazzling prices" for their wares, said W. H. Wilmot, secretary of the Ontario Milk Producers League, during a triangular discussion on milk at the Canadian Association of Consumers' meeting in University of Toronto schools.

Farmers, he maintained, are not being paid enough to cover their milk costs. "You will always have enough milk, though. When necessary, milk which ordinarily goes into cheese, butter, etc. will be drawn from and the fluid milk needs met."

Reminding that health authorities agree that, at 18 cents a quart, milk is the cheapest food city people buy, Mr. Wilmot said he thought it almost amusing how people complain about it. Everything we purchase is up, and the farmer who is the largest consumer in the world and buys so much, including his tools, made by city residents, has a large hand in preventing unemployment.

He hinted that if the consumer trade cannot use the "so-called surplus milk," the farmers will build a place to do so. He also said they would be financially better off to sell their herds to the United States where milk is 29 cents a quart. Some dairy men he admitted, are reducing their herds this way.

J. E. Houck of Brampton, Ont., representing the distributors of Toronto area, claimed that statistics showed that while the overall cost of living had increased 84 per cent since 1939, milk had only gone up 50 per cent. The distributor gets only one cent of the increase from 12 to 18 cents per quart. He clinched his argument by saying: "You will not find dairy stock in lists recommended for investment."

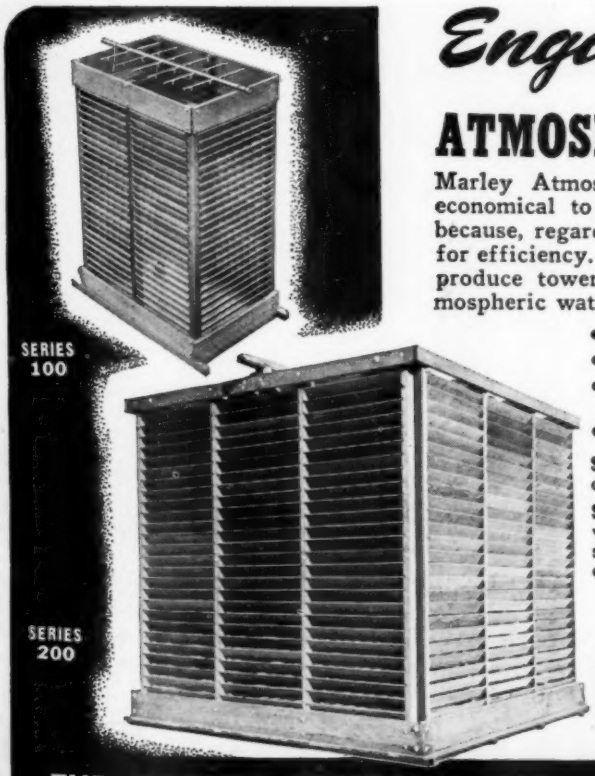
Mrs. E. E. Wright, who, with Mrs. R. J. Marshall, national chairman and local chairman, Mrs. W. P. M. Kennedy, presented the CAC brief before the Prices Inquiry Committee in Ottawa, said families are reducing their milk purchases since the price went up. She thought controls to protect the consumer as well as the trade should be placed.

●

### SALES REPRESENTATIVE NAMED

Philadelphia, Pa.—Appointment of William D. Wilson as district sales representative in Northern New Jersey and New York City for the Special Chemicals Division of the Pennsylvania Salt Manufacturing Company was announced by Joseph J. Duffy, Jr., Manager of Sales.

Wilson, before joining Pennsalt last January, was a chemist with the McCormick Rubber Company, Ridgefield Park, N. J. for 11 years and with Curtis-Wright, Caldwell, N. J. for six years. Mr. Wilson, a graduate of Pratt Institute, Brooklyn, N. Y. is a member of the American Electroplaters' Society. He and Mrs. Wilson and their two children reside at 31 Byrd Avenue, Bloomfield, N. J.


*Engineered Economy* in

**ATMOSPHERIC SPRAY TOWERS**

**Marley Atmospheric Spray towers are doubly economical: economical to install, economical to operate *efficiently* . . . because, regardless of price, every Marley tower is engineered for efficiency. Only years of experience and constant study can produce towers with these qualities so vital to efficient atmospheric water cooling:**

- **Most complete utilization of natural air flow.**
- **Minimum drift loss.**
- **Balanced spray system gives maximum distribution at lowest pressure.**
- **Sturdy structural strength without excess usage of material.**

**SERIES 100 TOWERS**—Produced in 6 frame sizes for small capacity installations.

**SERIES 200 TOWERS**—Built in standardized sections for variable capacities. Standard coils are available for closed system cooling. Both towers are prefabricated for ease of erection.

***MARLEY WAY is the PERFECT SPRAY***

Marley Non-Clog Spray Nozzles set the standard in process industries for product and container washing, humidifying, cleaning, air washing, homogenizing and other services.

MARLEY COOLING TOWERS

THE MARLEY COMPANY, INC. • KANSAS CITY 15, KANSAS

## DEATH TAKES ROLAND F. SMITH

### Waukesha Foundry Official Widely Known in Nation's Dairy Industry

ROLAND F. SMITH, vice-president and general manager of the Waukesha Foundry Company, Waukesha, Wisconsin, died suddenly at his home at Rocky Point, Pewaukee, Wisconsin, on Sunday, April 4th. He had been in ill health for the past year.

Born October 19, 1903, at Clinton, Wisconsin, he was the son of C. C. Smith, founder and president of the Waukesha Foundry Company. Roland F. Smith had been associated in the business with his father since 1922. Starting as an apprentice in the foundry, he joined the sales force in 1925 and was sales manager from 1930 to 1939 when he became vice-president and general manager.

During the war, Mr. Smith served on several industry advisory committees of the War Production Board and was a member of the War Bond Drive Committee. Together with his father, he was instrumental in raising the company to a position of leadership in its field, with large plants in both Waukesha and Watertown, Wisconsin.

Roland Smith was very active in a number of trade associations and particularly those related to the dairy field. He was a member of the Board of Directors of the Dairy Industries Supply Association and served as its vice-president during 1946 and 1947. He was a member of its executive committee and

ROLAND F. SMITH

membership committee, served on numerous other committees, and was co-chairman of DISA's technical committee. He was one of DISA's representatives to the Dairy Industry Committee and was particularly interested in its program for developing sanitary standards for dairy equipment. He was a member of the Board of Directors of the Dairy Industries Society, International, and a member of the National Association of Dairy Equipment Manufacturers, serving as its membership committee chairman and on its technical committee.

He is survived by his wife, Margaret, a daughter, Mrs. A. C. Zinn, his father, C. C. Smith, a sister, Mrs. R. D. Wright, and his aunt, Miss Altia Foltz.

●

## RALPH WHITE HONORED

Ralph R. White, New England Manager of Sealright, was honored for 25 years of service with the Company at a luncheon in the Waldorf-Astoria, New York, recently.

Ralph White and Sealright are practically synonymous names in New England where Mr. White has been principally responsible for shepherding the development of Sealright's flourishing business.

Mr. White was presented with a diamond 25-year service lapel pin by John L. Dolphin, Vice President of Sealright who hired him and for whom he has worked ever since. Present at the lunch-

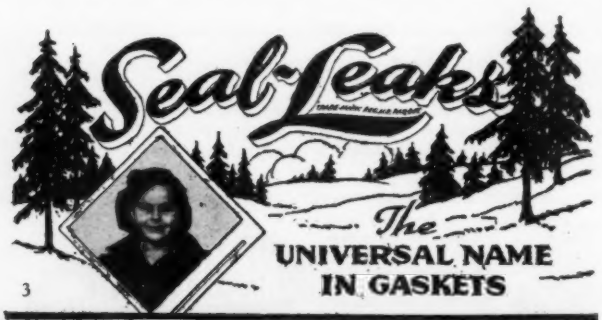

*A Satisfied Smile*

**ADORNS the countenance of many a milk plant operator since *Seal-Leaks* came his way. Indeed, with every heater and cooler and pipe-line joint in his entire establishment milk-tite indefinitely, why shouldn't any down-to-the-minute milk man be happy?**

**In daily use in leading plants the country over, they must be good. Cut by the millions from the famous forest-sweet resilient Beaverite stock. Packed in sanitary unit-containers — easy to order and use. You'll smile too — with SEAL LEAKS! ★★**

**An exact fit always. Every conceivable size and shape. Special styles and thicknesses promptly to order — let your Jobber have your sample**

***Ask your Jobber for SEAL-LEAKS by Name.***




BEAVERITE PRODUCTS, INC.
Beaver Falls, New York, U·S·A·

**Ready markets for condensed milks and dry milk products are constantly expanding — best evidence that diversification in dairy products manufacturing is the sound profitable way to build additional volume. Investigate the extra income-possibilities of Rogers Condensing Equipment or a Rogers Spray Process Milk Drying Plant.**

***"The Choice of Dairyland" Since 1883..***

Rogers

C. E. ROGERS COMPANY, 8731 WITT ST., DETROIT 9, MICH.

eon were two of his other 25-year Sealright fellow salesmen, in addition to Mr. Dolphin, S. A. Landau of New York, and G. A. Vogt of Hackensack, N. J.; and also Sealright Eastern Manager T. E. Heidenreich, Southern Manager J. K. Sheek, and District Managers, E. J. Freud of New York, G. L. Phillips of Philadelphia and C. E. Thompson of Cleveland.

Ralph White served in the U. S. Navy in World War 1. Then he held several sales positions which fitted him well to start out selling almost a new line, which Sealright was at that time, in two fundamental industries—dairy, and ice cream and food products—in New England. His personality and abilities have done the rest.

●

### NAMED GENERAL MANAGER

Mr. C. C. Smith, President of the Waukesha Foundry Company has announced the appointment of Mr. R. E. Cairns as General Manager to succeed Mr. Roland F. Smith who died suddenly on April 4th. Mr. Cairns has been with the company for twelve years, the last seven of which he has filled the position of Assistant General Manager. He has been Treasurer of the company for the past three years and is thoroughly familiar with all phases of the company's operations.

Mr. Emil M. Howe will continue in his position as Sales Manager of the Pump Division assuming additional responsibility for some of the sales promotional work previously handled by Mr. R. F. Smith.

It was announced that the policies and personnel of the Waukesha Foundry Company will remain the same as in the past.

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### KRAFT REARRANGEMENT

The Central sales and Middle West production divisions of the Kraft Foods Company have been combined into a unit to be known as the Central Division, with J. T. Wilson as general manager, G. C. Pound, excutive vice president, has announced.

J. T. WILSON

Wilson has been head of the Central sales unit and now will be in charge of all operations in the division. G. G. Myers, Midwest division production manager, will be in charge of all manufacturing plants in the division.

Merger of these activities means unification of operations in all factories and sales branches in Iowa, Illinois, Michigan, Indiana, Ohio, Kentucky, West Virginia, eastern Missouri, western New York, and western Pennsylvania, Pound said.

Wisconsin will be included in the Central Division for distributional purposes, but production units will remain as a part of Kraft Foods of Wisconsin.

Wilson joined Kraft as district manager at Dallas, Tex., in 1920, became branch manager at St. Louis in 1921, assistant sales manager in Chicago in 1927, and central division sales manager in 1933.

E. J. Bernard becomes divisional sales manager. H. E. Lowe will be product sales manager for loaf and bulk cheese; Arnold Leavitt for salad dressings and margarine; R. M. Wilson for confections and malted milk, and M. D. Jones for industrial foods. R. L. Henard will be divisional automotive engineer.

●

### EXTRACT OFFICIAL IMPROVES

Frank Scheu of the S. H. Mahoney Extract Company has returned, completely recovered, and much heavier, from his stay in Florida. Frank will be seeing all of his many friends in Wisconsin, Iowa, Minnesota, Michigan, North and South Dakota, Nebraska as quickly as he can get around to all of them.


# eliminate guesswork!

**with a new TESTRITE Babcock Tester**

**The accuracy of your Babcock Tests is assured with a TESTRITE Tester. Correct centrifuging speed and temperature are under the operator's control at all times. If the laws of your state specify centrifuging speeds, you don't have to guess . . . built-in speed measurement and control are at your fingertips with a TESTRITE.**

**Because the TESTRITE has a scientifically designed air recirculation system, there is no chance of inaccurate tests due to too high or too low temperature within the tester.**

**You'll also be pleased with a TESTRITE after you see its easy, vibration-free operation. Oversize motor has reserve power. Special brake drum assures smooth starts and stops. For the finest in testing equipment, see your Cherry-Burrell Representative about a new TESTRITE.**

## Two Other Models . . .

**Two Cherry-Burrell Testers . . . the "Silver Flash" and the Model M—are just right for small plants. Rugged and reliable—these economical testers operate smoothly and easily. Yes . . . for accurate Babcock Tests—Cherry-Burrell has a tester for every need.**

**CHERRY-BURRELL CORPORATION**
*General Sales and Executive Office:*
**427 W. Randolph Street, Chicago 6, Ill.**
*Milk and Food Plant Equipment and Supplies*
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

*trendmaker in a great industry*

## STERLING RESEARCH WINNERS

### Award of Merit Trophies Go To New York and Wisconsin Firms for Work in Quality Improvement

ARCADE FARMS Cooperative of Blasdel New York, and Deerfield Creamery Company of Dane County, Wisconsin, were awarded top

E. W. Harrington, left, presents trophy to William Sadler, manager of Arcade Farms.

honors in the 1948 quality improvement contest conducted by the Sterling Research Corporation.

The Awards of Merit for excellence in quality improvement of dairy products based on exhaustive field reports gave first place in the Dairy and Producer Division to the New York concern and first place in the Creamery and Processor Division to the Deerfield Creamery Company.

The awards were made by President Harrison of the Sterling Research Corporation. In expressing his congratulations to the winners in the 1948 contest Mr. Harrison said,

"When in 1947, we instituted our Quality Improvement Milk Campaign, it was only after the Research Division had made a long and careful study of that Disease of Dairy Cattle known as Mastitis, and the extent to which this disease could be said to militate against the Quality of Milk and Milk Products.

"We are definitely of the opinion that no Quality Food Product can come from the Udder of a Diseased cow. We strongly believe that it is only through the voluntary action of its Producers in the Control of Mastitis; or, by the strict enforcement of those Laws designed to insure the Purity and Safety of Milk and Milk Products, that the Dairy Industry can hope to fully meet its obligations to the Public.

"In extending our congratulations to the Winners of these awards for 1948, I wish to thank the thousands of Producers and Processors who, through their vigilance, and cooperation are aiding in the good work of Mastitis Control. Such work merits the commendation of all concerned."

The Sterling Research Corporation manufacturers KO-EX-7 Brom Thymol Mastitis Detectors.

●

## MICHIGAN ALLIED OUTING

June is dairy month in more ways than one. For the Michigan Allied Dairy Association it is the time of a grand summer outing to be held at Traverse City on June 23, 24, 25.

The gathering, under the direction of L. W. Carpenter of the Michigan Dairy Boosters, is strictly a festive occasion. Advice from headquarters is "costs you ten bucks if you are caught talking business during the outing."

A program of activity, ranging from the mild to the strenuous, is scheduled. Activity chairmen are: Fishing Tournament, Howard W. Black; Golfing Tournament, Don Holmes; Shuffleboard Tournament, John Lewis; Ladies Entertainment, J. N. Davidson; Cribbage Tournament, Bruce Williams; Treasurer, Cecil Mallory; Reservations, Len Franke.

## DAIRYMEN ELECTED

Alfred T. Banfield, Controller of the Franklin Ice Cream Company and Chapman Dairy Company, Kansas, Mo., and Gordon L. Bjornstad, Assistant Treasurer of the Land O'Lakes Creameries, Inc., Minneapolis, have been elected to membership in the Controllers Institute of America.

The top financial executives of 3,022 leading American companies in every branch of industry are members of the Institute. It was founded in 1931.

●

## OLD ISSUES WANTED

**Would greatly appreciate receiving any of the following issues of our publication: American Produce Review—October and November, 1938; American Milk Review—October, 1940; June and November, 1942; January, March, May, July, September and November, 1943; October, 1944; July, 1945. Please address replies to American Milk Review, 173 Chambers St., New York 7, New York for the attention of Miss Bode.**

●

## PENNSALT TRANSFERS

Philadelphia, Pa.—John M. Davidson has been named Pittsburgh district sales representative for the Special Chemicals Division of the Pennsylvania Salt Manufacturing Company, it was announced by Joseph J. Duffy, Jr., Manager of Sales. Davidson formerly was sales representative in the Northern New Jersey and New York City territory.

Mr. Davidson fills the post formerly held by William J. Hennessy, now Pittsburgh District Sales Manager of the Special Chemicals Division.

Mr. Davidson graduated from Dickinson College with a bachelor of arts degree and earned a degree of master of education at Temple University. Prior to joining Pennsalt in July, 1946, he taught at high schools in Clayton, N. J., Pitman, N. J., and New York Military Academy, and was a salesman for the Ediphone Company, Philadelphia.


**FOR A DEPENDABLE SOURCE OF HIGH QUALITY DAIRY PRODUCTS, CALL US.**

| | |
|---|---|
| MILK | BUTTER |
| FRESH CREAM | BUTTERMILK |
| FROZEN CREAM | DRIED SKIM MILK SOLIDS |
| SOUR CREAM | SWEETENED SKIM CONDENSED MILK |
| COTTAGE CHEESE | ICE CREAM MIX |
| FARMERS CHEESE | BAKERS CHEESE |
| POT CHEESE | PLAIN SKIM CONDENSED MILK |

**GRANDVIEW DAIRY, Inc.**

6071 METROPOLITAN AVENUE, RIDGEWOOD, N. Y.

PLANTS AT:

Arkport, New York — Bear Lake, Pennsylvania — Cohocton, New York — Neenah, Wisconsin

## EZE-ORANGE APPOINTMENT

M. V. Wells, Sales Manager of the EZE-ORANGE COMPANY, Inc., has announced the appointment of Oliver Norville as EZE-ORANGE representative in the states of Washington and Oregon. Mr. Norville has had years of experience in merchandising and advertising in the dairy industry, and his many friends throughout the Pacific Northwest will welcome him on his new assignment. Mr. Norville makes his home at 2933 N. E. 51st Ave., Portland, Oregon.

OLIVER NORVILLE

●

## R. C. FISHER JOINS KLENZADE

Mr. Robert C. Fisher has recently joined the staff of Klenzade Products, Inc., Beloit, Wisconsin, manufacturers of chemicals for dairy and food plant sanitation. Mr. Fisher will act as district representative and technician in the company's Kansas City Division.

He attended the University of Missouri for three years, majoring in Animal Husbandry. While there he was an active member of the Agriculture Club and stock judging teams.

Mr. Fisher served in the United States Army Air Corps for more than three years as a pilot of Field Artillery Liaison Observation planes in the South Pacific area and was honorably discharged in January 1946 with three rows of decorations.

He completed his education at Iowa State College where he studied Dairy Products and since that time has been associated with a large dairy plant in Springfield, Missouri producing evaporated milk and spray process powder.

At the same time it was announced that Philip A. Cochran would serve as Klenzade representative in the New York Division.

Mr. Cochran is a graduate of the University of Massachusetts where he majored in Dairy Industry. For some time he was connected with New England Dairies, working on their quality control program in both city and rural plants. More recently he has been plant manager of Norman Dairy, Inc., New Canaan, Connecticut.

Mack, a famous Holstein steer owned by James Avery of Buckland, Massachusetts, thirty years ago, weighed 4700 pounds in his prime.

## NAMED TO SAFETY COMMITTEE

E. G. Quesnel, Director of Safety for the Borden Company, was appointed to represent U. S. management on the Internation Labor Organization's Committee on Accident Prevention. He was named upon the recommendation of the U. S. Department of Labor.

E. G. QUESNEL

The 12 - nation committee plans to meet in Geneva, Switzerland, in October to work out an international program for the prevention of industrial accidents. Mr. Quesnel, a leader in safety work for more than 25 years, will help summarize for the committee the latest American accident-prevention techniques.

Mr. Quesnel said the committee would seek to develop better world-wide understanding of accident causes and cures and greater international cooperation in safety work. He will make the committee's recommendations available to American industry following his return to this country from the Geneva meeting. Mr. Quesnel lives at 25 Dobbs Terrace, Scarsdale, N. Y.


# SANITARY MILK PUMPS

**Nickel Alloy — Stainless Steel**

●

# Sanitary Fittings

**Nickel Alloy — Stainless Steel**

●

## STAINLESS STEEL SURFACE COOLERS

**Competitively Priced to Tinned Copper**

# G. & H. PRODUCTS SALES CO.

**1519 Washington Avenue** **Racine, Wisconsin**

### MATHIESON APPOINTMENTS

A new southern sales area, with headquarters at New Orleans, and new district sales managers at New Orleans and Houston, have been announced by D. W. Drummond, Vice President-General Manager of Sales of Mathieson Chemical Corporation (formerly The Mathieson Alkali Works). Vernon Woodside will be in charge of the New Orleans sales district and Roland F. Boehm will be in charge of the Houston sales district.

Mr. Woodside is a graduate of the New York College of Forestry and holds a B.S. degree in chemistry. He joined the Mathieson organization in 1936 as a member of the Sales Development and Technical Service Department, and, until his present appointment, specialized in technical service to the pulp and paper industry. He is a member of TAPPI and has served on the TAPPI subcommittee on pulp purification. As District Sales Manager for the New Orleans territory, he will make his headquarters in a branch office being established in the Queen and Crescent Building, 344 Camp Street, New Orleans, La.

Mr. Boehm succeeds W. S. Hammond, recently deceased, as District Sales Manager of the Houston Sales District. During World War II, he served with the War Production Board as Assistant Chief of the Nitrogen Unit, Chemical Division, Washington, D. C. He has been with Mathieson since January, 1946. His headquarters are in the Second National Bank Building, Houston, Texas.

Appointment of John D. Schofield, III, as Heavy Chemical Sales Representative, was also announced by Mr. Drummond. Mr. Schofield will cover central New Jersey, southern New York, western Connecticut and northeastern Pennsylvania, and will make his headquarters at the New York office of the company. He will handle chlorine, ammonia, sanitation and water treatment chemicals.

A native of Philadelphia, Mr. Schofield is a graduate of Washington & Lee University and holds a B.S. degree in chemistry. He served in the U. S. Navy for three years during the last war and was released to inactive duty with the rank of Lt. (Jg.).

●

### PENN STATE HONORS TWO

Members of the dairy husbandry and dairy extension staffs of the Pennsylvania State College will honor Professors Andrew A. Borland and Roscoe R. Welch at a dinner in the Nittany Lion Inn, State College, Monday evening, May 31. Both men will retire on June 30.

Professor Borland has been head of the department of dairy husbandry since 1919. During the preceding four years he was in dairy extension work for the College.

Professor Welch has served on the dairy extension staff since 1926 but had a two-year term earlier before serving in another position.

●

### MILK ON THE AMERICA

*(Continued from Page 46)*

trying job. Passengers with small children and infants often require special brands of milk not ordinarily carried. At the end of the war when "war brides" were being transported from England to the United States, the baby feeding problem was particularly pressing. Mr. McGrath says "We carry certified milk for baby formulas and occasionally mothers, in advance of sailing, will request a specific brand of milk she has been using in her formula. If the brand is not carried we will procure it locally. If it is not available, the passenger is advised so she may bring her own supply rather than change the formula in use.

"Ship's nurses or stewardesses will prepare baby formulas if so instructed by the ship's doctor or the passenger. Many times the mother will give the formula to the ships personnel in advance. The bottles are prepared and placed in the refrigerators. The bottle is heated by the nurse, stewardess, or night steward at the requested feeding time. Bottles, nipples, and other accessories are carried aboard the ship for the convenience of passengers."

The ability of ocean going vessels to carry fresh milk is a fairly new development. Recombined milk was widely used during the recent war. Professor Doane's paper on frozen milk, published in the April issue of the American Milk Review, told of the success that the Armed Services met with in this method of getting milk to the troops. On the America the milk is fresh milk. Improved refrigeration, better quality milk, shorter voyages due to faster ships, and an increased demand have been factors in sending milk to sea.

On the third Wednesday in June at 4 P.M. Eastern Standard time you will doubtless be well occupied closing the business of the day. If perchance you do have a moment it might be worth your while to pause and in your mind's eye watch the mighty America back out into the stream. Watch the gulls circle overhead and the white foam that streams astern when the great propellors begin to move. This is the America; twenty-six thousand tons of hammered steel. And below decks in the coolers there stands, as splendid tribute to the industry that produced them, twenty-five thousand pounds of dairy products.

●

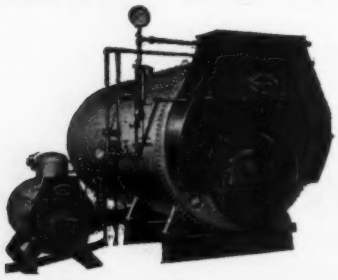
### BLUE RIDGE TO BORDEN

The Blue Ridge Products Sales Company, North Carolina ice cream manufacturer, has become associated with the Borden Company.

The ice cream operations of Blue Ridge will be known as The Borden Company, Blue Ridge Ice Cream Division. Operations will be maintained at Hickory, Shelby, Rutherfordton, Marion and Morganton. The fuel and ice businesses of Blue Ridge will *not* become a part of the Borden organization.

Leslie J. Taylor of Rutherfordton will continue as head of the Blue Ridge ice cream operations and other personnel will remain.


# LEFFEL SCOTCH MARINE BOILER



**Universally accepted and used as the Ideal Boiler for MILK PLANTS where Economical Service, High Efficiencies and Lowest Maintenance Costs are required.**

**Built in sizes 6 to 250 H.P.. to comply with the A.S.M.E. Boiler Code and all State Boiler Laws.**

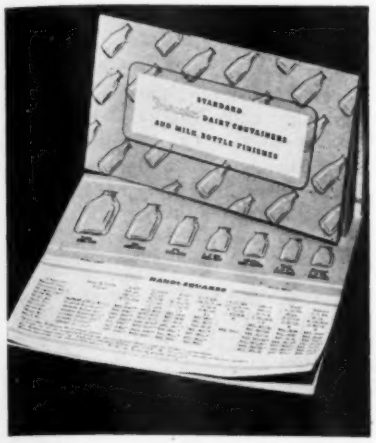
**Splendidly adapted for firing with COAL (hand fire, or with the specially designed LEFFEL STOKER) OIL, GAS and WOOD.**

**THE JAMES LEFFEL & CO., Established 1862 Springfield, Ohio**

See Additional Leffel Stoker Ad on Page 93 Dept. MR

### CATALOG FOR DAIRYMEN

This handy pocket catalog of "Standard Duraglas Dairy Containers and Finishes" contains valuable information for every dairy operator. The complete line of all standard dairy bottles is shown with specifications of height, diameter and weight, mold numbers and standard



finishes. It also includes data on juice and chocolate drink bottles. New serialization and markings that identify the manufacturer and bottle style of all states are shown for the first time. Copies of this handy catalog may be obtained from your Owens-Illinois representative or by writing the Dairy Container Division, Owens-Illinois Glass Company, Toledo, Ohio.

●

### SALES TRAINING AID

*(Continued from Page 56)*

her dollar in food today. Milk gives her the most real food for the least unit cost.

2) Homogenized milk is better than regular milk because it forms smaller curds in the stomach and is more quickly digested; it also tastes better with the cream spread throughout the bottle.

3) Vitamins A and D help make the milk more nourishing. They put milks, calcium-phosphorus and other food factors to work in helping to build and maintain good health.

This story was worked out visually. Again color, simplicity and selectivity were the keynotes. Then a special speech was prepared, along with an instruction booklet for the men who would use the board in sales meetings all over the country. In this "primer," the Vitex Vitamin A and D story is told and the positions of the respective symbols on the Board is specified. Then the Vitex representatives were coached in the actual use of the Board.

The Boards are now in use by these Vitex representatives. They report excellent response from the dairymen and the routemen alike. The audiences are intrigued with the novel presentation, and because of the board's simplicity and showmanship, the routemen easily remember the scientific data so painlessly imparted. They are well-instructed without conscious effort on their part, and they are able to tell the housewife about the benefits of vitaminized milk. At a showing in Collinsville, Ill., the owner of the dairy was so impressed with the demonstration he asked the representative to repeat his "show" at a dinner meeting with the wives of the employees present. Mr. Freet states: "Our men are very enthusiastic. Our story is a difficult and technical one, and this graphic presentation really seems to get it across to routemen audiences ranging from 5 up to, perhaps, 100 men."

One of the chief assets of this particular campaign is that the visual presentation was worked out by an outside creative organization. The problem could be approached with complete objectivity. The know-how of visual psychology and audience reaction to the Vitex problem of sales training could be effectively employed. By screening and developing ideas and information, an effective, hard-selling visual presentation resulted which is doing a strong selling job for Vitex and the dairymen.


Gain ⅓ More Floor Space with SQ CRATES

Increase cooler and storage space one-third (three SQ Crates occupy approximately the same floor area as two round bottle crates) without increasing area, without plant investment. Save delivery costs too, with larger route loads per truck.

Wood and metal combination in sturdiest construction give SQ Crates highest shock absorbing flexibility.

*Change to SQ Crates and Save!*

**Write for** information on SQ Crates for every bottle size . . . also for our catalog on the complete Superior line of metal dairyware.

Superior METAL PRODUCTS COMPANY
509 FRONT AVENUE ST. PAUL 3, MINN.

# NEW MINNESOTA CREAM RULES

*By* **BEN M. ZAKARIASEN**

***Manager Laboratories and Field Service, Land O'Lakes Creameries, Inc., Minneapolis, Minn.***

**With the new Minnesota state cream regulations going into effect April 19, Mr. Zakariasen emphasizes the necessity of uniformity in grading methods and of quality field work in creameries and on the farms. He was chairman of the committee appointed by R. A. Trovatten, Commissioner of the Department of Agriculture, Dairy and Food, to make recommendations for the new regulations. Wisconsin, North Dakota and South Dakota are considering similar rules.**

**The best way to comply with the controls, Mr. Zakariasen stresses, is for creameries to get together in groups and hire quality fieldmen to make tests and to work with producers on their farms. "If each creamery were to hire its own fieldman," he says, "there would be variations in methods of grading and in carrying out the quality program in general."**

**Land O'Lakes Creameries, Inc., is offering the facilities of its field service division to members and nonmembers alike in complying with the new regulations. For creameries getting together to hire fieldmen, Land O'Lakes will train the men and supervise them in their work.**

**The new regulations require that a pint sample of cream be taken off the bottom of the original container for testing. Previously only two ounces were taken for the sample, and there were no standards on how the sample should be taken.**

**Sediment tests must be made of each producer's cream at least once a month. If a pint sample from the bottom of a random can shows a sediment in excess of that indicated on pad No. 3 on the official chart adopted by the Commissioner, the remaining cans in the delivery must be tested and all showing a similar sediment excess will be rejected. Thereafter, sediment tests must be made of all cans of cream in each delivery of the producers until all of them show a sediment of 2½ milligrams or less.**

**Tags placed on unlawful cream cans cannot be removed while the rejected cream is in the can, and the cream cannot be sold for human consumption.**

**All purchasers and receivers of cream are required under the new regulations to report to the Commissioner within 48 hours the name and address of each producer who has had three successive deliveries of unlawful cream.**

---

FOLLOWING the enactment of the new regulations pertaining to grades and standards for milk for manufacturing purposes on December 1, 1947, there was a tendency for some milk producers delivering milk to dairy plants to change to cream, due to the fact that the grades and standards for cream, under the old cream grading law passed in 1935, were more lenient as far as quality is concerned.

As a result of the many protests that were received by the Minnesota Commissioner of Agriculture, Dairy and Food, in the form of resolutions from dairy plants throughout the state, a hearing for the dairy industry was held which was later followed by the enactment of new cream regulations as of April 19, 1948. It is the general opinion of the Minnesota dairy industry that these regulations should more closely coincide with the new milk regulations.

The following cream regulations, which are in force as of April 19, 1948, include parts of the old as well as the new regulations, and for the purpose of differentiating between them, the new regulations appear in italics.

### GRADES AND STANDARDS FOR CREAM AND RULES AND REGULATIONS RELATING THERETO, PURSUANT TO MINNESOTA STATUTES 1945, CHAPTER 32.

**REGULATION No. 1—Cream Grades.**

**Sweet Cream**

Sweet cream shall consist of fresh, clean, fine-flavored cream, the acidity of which calculated as lactic acid shall at no time have exceeded* one-fifth of one per cent in cream. It shall be cream free from undesirable odors and flavors, *and the sediment which shall be taken from a pint sample of cream taken off the bottom of the original container shall not exceed that shown by Pad No. 3 of the official chart adopted by the Comsioner.*

**Grade One Cream**

Grade One Cream shall consist of fresh, clean, fine-flavored cream, the acidity of which calculated as lactic acid

**USE OUR MICRO CRYSTALLINE WAX TO SOLVE YOUR MILK PACKAGING PROBLEMS**

**It has been proven that MICRO CRYSTALLINE WAX, added to your other waxes - - -**

- **IMPROVES ADHESION**
- **PREVENTS FLAKING**
- **HELPS TO STOP LEAKS**
- **EXTENDS OTHER WAXES**

*Write today for Samples and Literature*

**BOLER PETROLEUM COMPANY**

**Widener Building** **1928 — 1948** **Philadelphia 7, Pa.**

shall at no time have exceeded* three-fifths of one per cent in cream. It shall be cream free from undesirable odors and flavors, *and the sediment which shall be taken from a pint of cream taken off the bottom of the original container shall not exceed that shown by Pad No. 3 of the official chart adopted by the Commissioner.*

**Grade Two Cream**

Grade Two Cream shall consist of cream that is too acid to grade as Grade One and/or contains undesirable odors and flavors in a moderate degree, *and the sediment which shall be taken from a pint sample of cream taken off the bottom of the original container shall not exceed that shown by Pad No. 3 of the official chart adopted by the Commissioner.*

**Unlawful Cream**

Unlawful Cream shall consist of cream which contains blood, dirt, filth, or other foreign matter which makes it unfit for human food.

**REGULATION No. 2—Sediment Tests.**

Sediment tests shall be made of each producer's cream at least once a month.

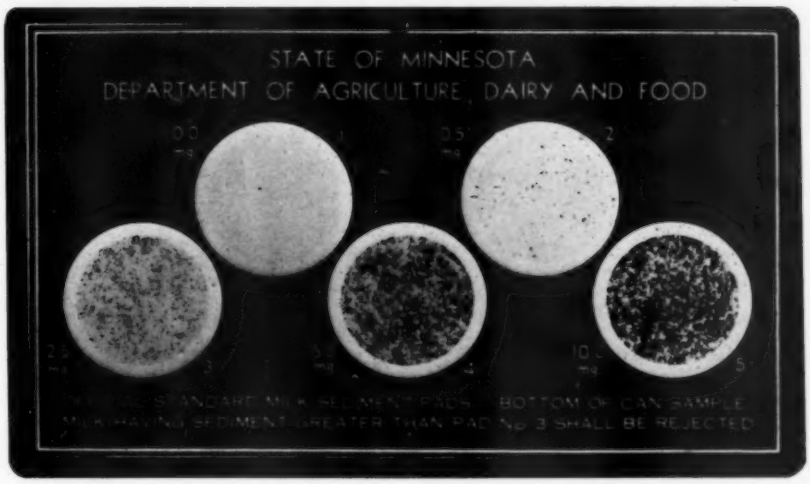
*The Sediment tests shall be classified according to the following standards and according to the official chart adopted by the Commissioner.*

Pad No. 1—clean, 0 mg.
Pad No. 2— 0.5 mg.
Pad No. 3— 2.5 mg.
Pad No. 4— 5.0 mg.
Pad No. 5—10.0 mg.

*The sample of cream from which the sediment test shall be made shall consist of a pint of cream taken by drawing the sediment tester once across the bottom of the original container on the line of greatest diameter.*

*If the random can of cream yields a sediment in excess of 2.5 mg. as indicated by pad No. 3 of the official chart adopted by the Commissioner, the remaining cans of that delivery of the producer's cream shall be tested and all cans yielding a paid in excess of pad No. 3 shall be rejected.*

CHART FOR MINNESOTA MILK AND CREAM SEDIMENT STANDARDS




**The official milk sediment pad charts as shown above also serve as the sediment standards for cream under the new cream grading regulations.**

*Thereafter sediment tests shall be made of all the cans of cream in each subsequent delivery of said producer's cream until all the cans of cream in such subsequent delivery show a sediment of 2.5 mg. or less.*

*A record of all sediment tests taken shall be retained by the person taking the same for a period of at least one year thereafter.*

**REGULATION No. 3—Price Differential.**

All purchasers of cream or butterfat shall maintain a reasonable price differential for such grades and at no time shall this differential be less than one cent per pound butterfat between grades.

**REGULATION No. 4—Denaturing and Tagging of Unlawful Cream.**

All purchaser and receivers of cream shall denature unlawful cream by the addition of a harmless blue coal tar dye *approved by the Commissioner:* and affix to all cans or containers containing unlawful cream a rejection tag to be provided by the Commissioner indicating the reasons for rejection. *Under no circumstances shall such tags be removed from the cans or containers while such unlawful cream is contained therein, by the trucker, handler, or any other person.* Such unlawful cream shall not be sold for human consumption.

**REGULATION No. 5—Reports.**

*All purchasers and receivers of cream shall report to the Commissioner, within 48 hours on forms furnished by him, the name and address of each patron who has delivered three successive deliveries of unlawful cream.*

Adopted March 19, 1948.

Approved by the Attorney General March 19, 1948.

Filed with the Secretary of State March 19, 1948.

*The Attorney General's terminology of "one-fifth of the per cent" is equivalent to the commonly used terminology of ".20%". Likewise, "three-fifths of one per cent" is equivalent to ".60%".

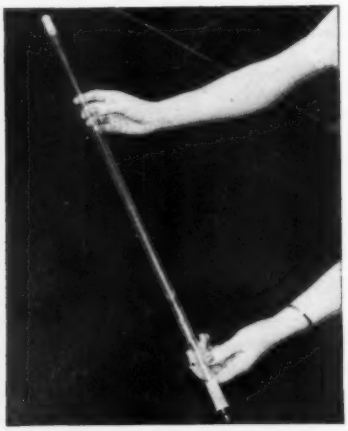
Kurly Kate
METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL, SILVER and BRONZE.
KURLY KATE CORPORATION
2215 S. MICHIGAN AVE. CHICAGO 16 ILL
ORDER FROM YOUR JOBBER OR WRITE DIRECT
Kurly Kate
stainless metal sponge

# USING OUR SEPARATOR • ITEMS OF INTEREST SKIMMED FROM HERE AND THERE

### *Germicidal Sterilamp*

A 25-WATT SLIMLINE GERMICIDAL Sterilamp has been developed by engineers or the Westinghouse Electric Corporation. The 36-inch-long lamp supplements the standard line of cold and hot cathode Sterilamps.

The electrical characteristics of the Slimline Germicidal Sterilamp are similar to those of the Slimline Fluorescent lamp. It is designed for starterless operation with standard 64T6 Slimline Fluorescent lamp auxiliaries. The lamp



will operate in any position. The lamp operates satisfactorily down to freezing temperatures, although optimum operation is at room temperature. As with all vapor lamps, the ultraviolet output decreases with the drop in temperature; however, excessive blackening, which covers low output, is reduced to a minimum.

Further information on this Slimline Germicidal Sterilamp may be obtained from the Lamp Division, Westinghouse Electric Corporation, care of this publication.

•

### *Surface Finish of Plastic*

A TRANSPARENT LIQUID surface finish of plastic that protects painted floors, walls, finished metal work, and machinery has been put on the market by Reyam Plastic Products Company of Chicago. The product is marketed under the trade name of Reyam Brushless Plastic Finish.

Created during the war, the new finish can be applied to coolers, milk cans, cream separators, tanks, bottling machinery and other milk handling equipment.

The material is applied by wiping it on the surface to be protected. No brush is required. It is said to be touch dry in twenty minues and hard dry in eight hours.

According to the manufacturer the finish resists moisture, salt, extreme degrees of heat and cold, alcohol, alkalis, caustic soap and most chemicals.

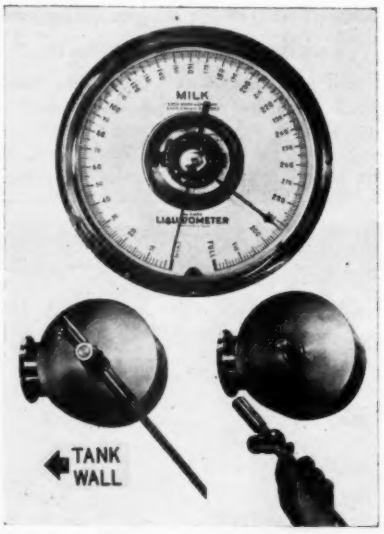
The plastic can also be used in refinishing delivery trucks, tank trucks, and motor cars. Several large dairy companies have used the new finish on fleets of delivery trucks and report favorable results.

•

### *Milk Tank Gauge*

A MILK, ICE CREAM MIX and other liquid food products gauge has been developed by the Liquidometer Corporation of Long Island City, New York.

The principal element of the installation consists of a round, polished stainless steel housing permanently attached to the inside wall of the tank. Permanent magnets are completely enclosed inside the housing, to which is attached a removable one-piece float and arm. The float arm is held magnetically in working position and is removable for




cleaning by pulling it off the bearing. A ball float attached to a stainless steel arm rides on the liquid level; as the float arm moves on its bearing the magnatic coupling accurately follows the float arm. A direct mechanical linkage connects the magnetic coupling to the pointer of the indicator.

Dial graduations accurately indicate the true tank volume in terms of cans or any other desired unit of measurement. In addition to the indicating pointer that shows the tank's contents on a 12 inch dial, a second pointer (hand-set) is built into the indicator for checking deliveries and withdrawals of the liquid being measured.

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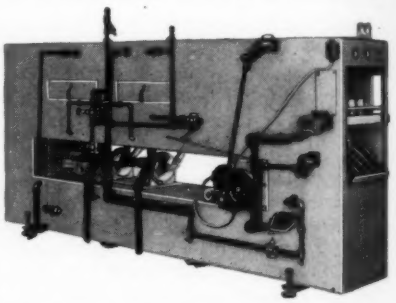
### *Girton Soaker Washers*

THE GIRTON MANUFACTURING COMPANY of Millville, Pennsylvania, has announced a new series of Soaker Washers. These new washers have been designed for greater efficiency



and more economical operation and include many improved features.

The new series are available in both automatic and semi-automatic models. They come in sizes which will wash from 16 to 72 bottles per minute. A model specially designed for installation in limited space is included in the line.

The Company has issued a bulletin on these washers, which it will send in answer to requests.

•

### *Milkstone Removal Booklet*

AN ACCOUNT OF HOW scientific cleaning materials and modern sanitation methods are making possible faster, easier removal of milkstone and other milk residues from dairy plant processing and handling equipment, is given in a 12-page, illustrated booklet just issued by Oakite Products, Inc., New York.

The Booklet first discusses the problem of milkstone removal generally, then specifically in connection with Oakite

THE MODERN ANSWER TO *Dairy* SANITIZING PROBLEMS . . .

**Q-Tabs**

GERMICIDAL TABLETS

A new quaternary ammonium sanitizer in tablet form! Simply drop one or more Q-TABS in a measured quantity of water to make a powerful germicidal rinse for pails, strainers, milk cans, churns and other dairy equipment. Crystal clear solutions ...perfect rinsibility. Simple and economical to use.

ON SALE AT LEADING SUPPLY HOUSES or write JAMES VARLEY & SONS, Inc. 1200 SWITZER AVE. ST. LOUIS 13, MO.

**SAVE Over 20%**

on Recording and Indicating

**THERMOMETERS**

Because of excess inventory, we are offering new pasteurizer thermometers in orizinal packages, U. S. Public Health Standards, latest design, as follows:

Bristol Recorders, 32" Stem- - - - $96.00
Scientific Indicating, 32" Stem - - $27.00

**R. G. WRIGHT CO.** 35 Roetzer Street Buffalo 11, N. Y.

KEEP ABREAST OF PRICE TRENDS AND CONDITIONS IN THE

# Concentrated Milk Markets

**Information Vitally Important to the Dairy Products Operator**

**Especially in Federal-State Milk Market Control Areas**

*Up-to-the Minute Data Presented in the*

# Producers' Price-Current

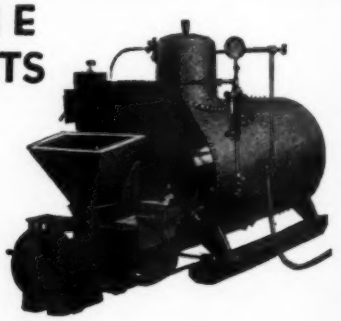
***Published Daily by the***

## URNER-BARRY COMPANY

**173 Chambers St.** **New York 7, N. Y.**

***Sample copies gladly sent on request***

## LEFFEL SCOTCH MARINE BOILER AND STOKER UNITS



**Generate Dry Low Cost Steam with the Proven Service and Safety of Leffel Scotch Marine Boiler and Leffel Ram Type Stoker**

We build stokers for other makes of Scotch type boilers.

Leffel boilers are ideally suited for oil or gas firing.

Available in sizes 6 to 250 H.P. inclusive normal (not inflated) rating, – and built with many plus qualities exceeding A.S.M.E. and State Boiler Codes.

Write, wire or phone us for full particulars.

**THE JAMES LEFFEL & CO.** Established 1862 **Springfield, Ohio**

See Leffel Boiler Ad on Page 88 Dept. MR

Compound No. 36, an acidic-type cleaning compound which is said to remove typical milkstone formations and casein deposits speedily, thoroughly and without damaging surfaces treated.

Detailed instructions for removing milkstone accumulations from preheaters, pasteurizers, regenerators, and from tanks, milk cans, sanitary fittings, pumps, piping, etc., by circulation, brush-soaking or immersion-soaking methods are provided in the booklet. In addition, it gives specific recommendations on solution concentrations, suggested working temperatures and solution make-up procedure. Readers desiring free copies of this new booklet may obtain them by addressing Oakite Products, Inc., 157 Thames St., New York 6, N. Y.

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### *Water Treatment Product*

CONTROLLING CORROSION, preventing lime scale and stopping "red water" discoloration in commercial, farm and small industrial and institutional water systems is described in a new illustrated folder published by Calgon, Inc., Pittsburgh. Minute amounts of Micromet, slowly dissolved into the water systems by means of a Micromet feeder, control these troubles in water systems handling up to 1,000,000 gallons per month, the folder explains.

Little attention is required with this treatment, it is pointed out; the user simply adds a small amount of Micromet to the feeder once a month to replace that which has dissolved. Micromet is a food-grade vitreous phosphate, which does not affect the taste or odor of the water. Protection of hot water systems, air conditioning and refrigeration systems, and the cooling systems for industrial equipment are other applications.

●

### *Scientific Instruments Catalog*

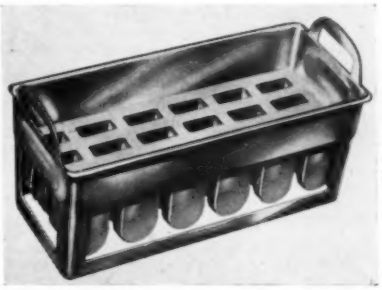
A NEW CATALOG, published by the American Instrument Co., Inc. of Silver Spring, Maryland, describes numerous scientific instruments for use in chemical, biological, physical, metallurgical, engineering, and materials testing laboratories. The publication is illustrated and includes data on general laboratory equipment.

Descriptions of hundreds of scientific instruments for research, testing, and quality control are included.

The catalog is available free of charge to laboratory workers requesting it on business or professional stationery, giving name, title, business affiliation, and complete address including postal zone number.

### *Stick Confection Mold*

WALTER J. WACHOWITZ, President of Alloy Products Corp., Waukesha, Wisconsin, fabricators of sanitary stainless steel products, announces an all-stainless steel ice cream stick confection mold with a new and improved design approach. According to Wachowitz the mold is completely streamlined. All cracks, joints, or crevices which could harbor accumulation of



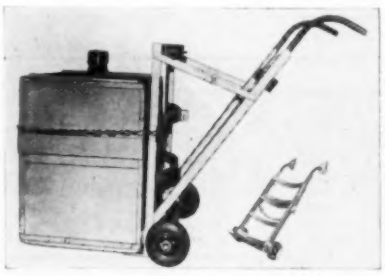
foreign material are eliminated. Corners are well rounded so that cleaning is simplified. Free brine circulation around all of the mold pockets is provided. The mold has a one-piece pan and is made of heavy gauge metal to withstand hard usage day in and day out. Pockets are also drawn in one piece and are heliarc welded flush to the pan for better sanitation. Handles are welded in one piece with smooth flush construction. A folder describing the new stick confection mold is available on request to Alloy Products Corp., Waukesha, Wis.

●

### *Safety Hand Truck*

A LIGHT-WEIGHT HAND TRUCK, combining many safety features is available from General Scientific Equipment Company, Philadelphia, Pa.

This Safety All-Purpose Hand Truck has two carrying positions which adapt it to a variety of portage jobs. The truck can be used to safely move carboys,



acetylene tanks, barrels, packages and other items in a vertical position to avoid spilling the contents. In the closed position the truck can be used as a hand truck to transport boxes, barrels and similar items in the conventional manner.

According to the manufacturer, the truck is designed to give maximum leverage on the handles and to carry the load on the wheels. The hand truck can be easily converted from one position to the other and is firmly secure in either position. A chain is provided to hold items being transported. The hand truck is equipped with aluminum wheels or with rubber tires.

●

### *Tube Fitting Catalog*

A NEW COMPLETE CATALOG issued by the Flodar Corporation, Cleveland, Ohio, describes in detail the important role of Tube Fittings in the sealing of higher fluid pressures.

The booklet introduces in laymans language the engineering and design problems connected with the harnessing of "Mr. Hi Pressure Oil Drop" for trouble free performance in the hydraulic systems in which he operates.

Other pages are devoted to the design, construction and performance of Flodar Fittings on high fluid pressure installations. Complete, detailed engineering specifications are presented for both the Flodar Fluid Fortress no flare fitting and the Grip Tube flare type fitting.

Copies of this catalog are available upon request.

●

### *All Plastic Louver*

AN ALL-PLASTIC COMMERCIAL fluorescent louver which eliminates eye-tiring surface brightness contrast is announced by Holdenline Co., Cleveland, the manufacturer.

Named the "Arrowhead," this new louver employs no metal restraining parts. Sides, longitudinal and transverse louver sections are all made of the same identical material. Self-locking, they are bonded into an integral unit which, the manufacturer states, cannot warp, sag, expand or discolor under any normal operating conditions.

This all-plastic construction eliminates objectionable dark-to-bright surface contrasts. And because light is diffused more evenly, ceiling and wall bright spots are eliminated and glare is reduced.

The Arrowhead louver is designed to prevent dirt collection. It snaps into position on the channel without the use of screws and is held securely by spring clips.

Arrowhead fixtures may be surface or pendant mounted as individual units or in continuous runs. Ballast is enclosed in the channel.

Information on installations may be obtained by writing to Holdenline Co., Cleveland, care of this publication.

# WANTS and FOR SALES

**RATES: "Position Wanted," 50c. Limit of 50 words; 2c for each additional word. All other advertisements, 5c a word ($1.00 minimum). Keyed ads, 15c extra to cover postage. The name and address should be included in counting the words. All payments strictly in advance.**

**Those who answer any of the following keyed advertisements please address replies to the box number, care of American Milk Review, 175 Chambers St., New York 7, N. Y.**

## FOR SALE — EQUIPMENT

FOR SALE—2 Rogers 6′ diameter by 14′ straight side copper Vacuum Pans, 5 double coils each; 2 Mojonnier 5½′ sides by 7′ diameter, 3 double coils and copper bottoms each; all complete with barometric leg condensers, vacuum pumps, steam headers and valves, all pans completely reconditioned good as new by Rogers' coppersmith. Also 6 Copper Hotwells; two 5′ x 5′; four 6′ high by 4′ diameter. Lock Box 215, Eau Claire, Wisconsin. 6-M-2

**ICE MAKERS**

300 lb. daily capacity. Produces 50 lbs. in cube sizes, balance in easy to handle 25 lb. blocks. Provides a convenient, sanitary and economical source of Ice. New and in A-1 condition, Navy Surplus. Standard Refrigeration Units being manufactured today and equipped for 110-220 Volt, 60 Cycle, 1 Phase Operation are furnished. Price $445 f.o.b. Philadelphia. Send 10% deposit with order. Limited quantity and attractive price. Act now!

**RECO PRODUCTS DIVISION**
2020 Naudain St. Phila. 46, Pa.

FOR SALE—Two 12,000 pound tinned copper Damrow cheese vats in good condition, each equipped with Damrow chain driven agitators, also in good condition. Fox River Dairy, W. Wrightstown, Wisconsin. 6-M

FOR SALE—One 3 x 3 York Ice Machine, 5 horse power motor, with or without double pipe condensers. Excellent condition. Price $300.00 complete; one 5 x 5 York Ice Machine, 10 horse power motor, no condensers, V belt drive in good condition: $250.00. Reason for selling, getting larger machines. Greene's Ice Cream Factory, Nebraska City, Nebraska. 6-M

FOR SALE—No. 142 Air-tight De Laval Separator with High Boy Waukeshaw Pump. $1100. Immediate Delivery. Mowrer's Dairy, 1414 Millard St., Bethlehem, Pa. 6-M

FOR SALE—3 Head Cellophane Hooding Machine; 8000 lb. per hour stainless steel Mortenson continuous pasteurizing unit complete; 1—3500 gal. and 1—2000 gal. stainless tank on trailers; 2—1947 KB-11 International tractors, new; Gallon milk filler; Mojonnier case washer. No reasonable offer refused. Phone Kanak, Merrimac 7378, 7517 W. Addison St., Chicago, Ill. 6-M

FOR SALE—Completely rebuilt and guaranteed Viscolizers and homogenizers. With standard or late type stainless sanitary heads and pressure valves. Bulletin and prices on request. Otto Biefeld Co., Watertown, Wis. 6-M

FOR SALE—Heil 4-wide Bottle Washer, automatic discharge; washes quarts to ½-pints, 38 per minute; 220 volts, 60 cycle, 3 phase motor, in good condition. Elmhurst Cloverleaf Dairy Co., Addison, Illinois. 6-M

## FOR SALE — EQUIPMENT

FOR SALE—Largest assemblage of machinery under one roof. Good selection of Pasteurizers, Coolers, Bottle Washers, Bottle Fillers, Can Washers, Storage Tanks, Heaters, Separators, Weigh Cans, Filters, Ice Cream Freezers, Homogenizers, Vacuum Pans, Churns, Pumps, etc. Save money by considering good Used and Reconditioned Equipment. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y. 6-M

FOR SALE—Two 8,000 lb. capacity Stainless Steel lined Cheese Vats. The Riley Creamery Company, Marlette Michigan. 6-M

FOR SALE—Oakes & Burger can washer and two 100 gal. Pasteurizers with pump; the following Cherry-Burrell equipment; 6-20 Bottle filler (fills ½ pts., pts., qts., ½ gals. —also round paper), 42nd case washer, 110 gal. sq. pasteurizer with milk pump, 200 gal. Viscolizer, two-ton Icy Flo with compressors, ¾ ton Icy Flo with compressor, two 5-ft. aerators; McHale Dump tank, 100 gals., with pump and scales (new); two 10-ft. sections heavy duty new track; 150 10-gal. cans; 20 5-gal. cans; 50 Dollies; 2 Taylor wall thermometers; Stamsvick Filter; 1936 Ford Panel 1½ ton; 1946 Dodge Panel ½ ton; 1 New Electro E 29 De Laval Separator. Harmon Dairy, 443 West Inyo Street, Tulare, California. 6-M

FOR SALE—One Cherry Burrell, Model C, 4 wide soaker bottle washer with automatic infeed and discharge to bottle conveyor. Excellent condition. Has had very good care. Price $800.00 F.O.B. Bryan, Texas. Sanitary Farm Dairies, 1802 W. Gray, Houston, Texas. 6-M-2

## FOR SALE — MISCELLANEOUS

FOR SALE—Chocolate Milk made with Bradway Non-Settling Chocolate Syrup and Powder is superior. Place your trial order now. BRADWAY CHOCOLATE COMPANY, New Castle, Ind. 6-M-t.f.

FOR SALE—Used milk bottle crates. Can deface old name and rebrand. Write or phone for present day inventory. Ohio Creamery Supply Co., 701 Woodland Ave., Cleveland, Ohio. 6-M-t.f.

**FOR SALE**

**1 Sample size Hoepner Powder Filler.**
**1 (Baby) Dickerson Liquid Filler—4 to 6 oz., 48 cell.**
**1 No. 192 DeLaval Separator—stainless steel disc.**
**3 Steam driven DeLaval Separators No. 61 and No. 71.**
**14 Steel Barrel Racks—average 24 bbl. per rack.**

**WYETH INCORPORATED**
**Mason (R. O. Phillips) Michigan**

FOR SALE—Owners of Diamond T Pak-Age-Cars Milk Trucks, if your truck is tied up for transmission parts or worn out motors, we can sell you an exchange unit rebuilt with a 1942 Jeep converted engine and transmission with Chrysler Corp. gears. We have equipped several fleets in this area with complete satisfaction. For details write Delivery Truck Repair Co., 340 W. Wayne, Fort Wayne, Ind. 6-M

## FOR SALE — MISCELLANEOUS

FOR SALE—2M milk cases for round quart bottles, good condition. First order takes them at 50c each. Box 291, care this publication. 6-M

FOR SALE—Skim milk, to be manufactured on premises or elsewhere throughout the year. Plant located in Central New York. Box 298, care this publication. 6-M

FOR SALE—1 Factory built retail milk wagon. Like new — $225.00. International Milk Co., 445 Hillside Avenue, Hillside, New Jersey.

FOR SALE—Several thousand used milk bottle cases for round bottles—in good condition—Write or phone 6-1134, New Haven Dairy, 201 Hazel Street, New Haven, Conn. 6-M

FOR SALE—One 164 can milk tank on Brockway truck—in excellent condition. Fair Lawn Dairy Farms, 5-01 River Road, Fair Lawn, N. J. 6-M-3

FOR SALE—53 gross used 51 MM round milk bottles pyroglazed. Write Penna. Milk Products Corp., Box 183, Harrisburg, Penna. 6-M

**Insulated Milk Truck Bodies**
for
**FARM PICK-UP**
*Write For Prices and Deliveries*
**Millington Truck Body Co., Inc.**
**Millington, Mich. Huntington, Ind.**
**Sparta, Wisc.**

## WANTED

WANTED—Milk business in the Catskills. Have own milk supply and own bottles and cases. Financially good. Write box 288, care this publication. 6-M-1

WANTED—Skim Milk year round on contract basis. Will use twice as much in flush period as rest of year. Can also use surplus cream. Will also consider buying an interest in a creamery located within 250 miles of Philadelphia where good milk supply is available. Can be approved or unapproved for Pennsylvania. Write Box 289, care this publication. 6-M-1

WANTED — One old-type, horse-drawn milk wagon. Write J. L. Davison, 2020 South 4th, Fresno, California. 6-M

**WANTED—Skimmilk, whole year basis, to be manufactured into cheese at plant. Reliable concern. Box 295, care this publication. 6-M-3**

## HELP WANTED

WANTED—Plant superintendent for an independent milk and ice cream plant in Ohio. Unusual opportunity for the right man. Give full information in first letter as to age, family status, past experience and salary expected. Inclose photograph. All letters kept in strict confidence. Box 294, care this publication. 6-M

## BUSINESS OPPORTUNITIES

FOR SALE—If you want a business in the great South West, here is a well-established, profitable milk, ice cream and butter plant which can be bought worth the money. Owner wants to sell entire plant or will keep real estate and rent to purchaser. Located in fine milk shed, growing town of 18,000. Box 299, care of this publication. 6-M

FOR SALE—Dairy located in Eastern Nebraska. Present volume about 500 pasteurized units daily. Very good opportunity to expand into butter and ice cream. County seat town. Box 296, care this publication. 6-M

## BUSINESS OPPORTUNITIES

FOR SALE—Milk plant, garage. All in first class condition. Did $300,000 business in 1947. Box 293, care this publication. 6-M

Modern pasteurizing plant located in Northern Ohio, newly equipped, doing 1500 units and growing daily, also wholesale ice cream. Building, stock, supplies, equipment and modern large home. Low overhead and a quality supply of milk makes this a real deal. Books kept by a Public Accountant and are open for inspection. Price $55,000. Will carry part as mortgage. Health is reason for selling. Box 292, care this publication. 6-M-2

FOR SALE — One of Oregon's finest Dairies. This is a new plant located in the wealthiest section of the state. This is a new building, new equipment and all late model trucks. Handle bottle milk only. Doing $30,000 per month business. Terms may be arranged. Box 297, care this publication. 6-M-2

FOR SALE — Creamery business and equipment—1200-1500 qts. daily. Inquire 16084 Hannon Road, Romulus, Michigan. 6-M

FOR SALE—Fluid milk plant in New York State. Up-to-date equipment. Taking in 200 cans daily. Can be built up, Box 290, care this publication. 6-M-3

## LIQUID CLEANER-SANITIZER

DEVELOPMENT OF A LIQUID cleaner-sanitizer that is effective in killing bacteria on dairy utensils and equipment is reported by Frank C. Baker, President of Tykor Products, Inc., of New York.

The new product—Thermo-San—not only controls hard-to-kill bacteria, but also saves the farmer time and labor, according to the manufacturer. It reduces the cleaning and sanitizing to a single operation and eliminates the rinse that normally follows washing.

In practice farmers rinse their dairy utensils with cold water immediately after use. Then, in a solution of about one tablespoon of the new product to a bucket of water, they wash and sanitize the equipment. Next, the utensils are hung up to dry without rinsing—their surfaces being protected by a bacteria-killing film of Thermo-San. It is only necessary to rinse the utensils with clear water before using again.

Extensive field tests have shown the effectiveness of this combined cleaner-sanitizer, even when large amounts of organic matter are present, according to Mr. Baker.

"We attribute the success of this product to certain powerful detergent and germicidal ingredients," Mr. Baker said. "It is safe to use, being non-toxic and non-irritating to the skin. It is also economical, costing the average farmer only about five cents a day."

●

## HAND TRUCK WHEEL

DEVELOPED PRIMARILY TO meet the requirements of the food processing industry, a new molded hand truck wheel is now available for use in plants where unusual floor conditions exist. Excessive moisture, fats, oil, acids, alkalis and wide temperature variations have little or no effect on the NEOTREAD wheel, according to St. John & Co., Chicago, Ill., manufacturers of the equipment.

The wheel core is made of hard rubber-fibre to which is bonded a cushion tread of DuPont Neoprene. Both of these materials are highly resistant to corrosion. Tests have been carried out which indicated a remarkable endurance under circumstances that caused rapid deterioration of metal wheels with bonded-on rubber tires.

Anti-friction ball bearings provide improved performance under both thrust and radial loads. The bearings are sealed against moisture and dirt. A Zerk grease fitting permits lubrication.

The durability of NEOTREAD wheels hasb een demonstrated in a large meat packing plant where hand trucks were not only subjected to extremes of temperatures and constant contact with fats but also underwent a thorough daily cleaning with live steam.

●

## BOTTLE STANDARDS READY

Printed copies of Simplified Practice Recommendation R10-47, Milk and Cream Bottles (Capacities, Weights, Dimensions and Finishes) are now available according to an announcement by the Commodity Standards Division of the National Bureau of Standards. Copies are for sale by the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 10 cents each. A discount of 25 per cent will be allowed on orders of 100 or more copies.

Simplification of variety of these glass containers, including standards for capacities, weights of glass, dimensions and finishes for bottles in the half-pint, pint, quart and half-gallon sizes was initiated by the industry in 1923. Both square and round shapes of bottles are included. The present revision was proposed by a committee of the Glass Container Manufacturers Institute.

●

## ELMHURST OF MONTREAL

*(Continued from Page 45)*

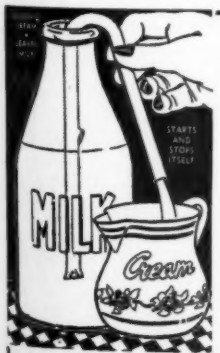
Out of over 160,000 gallons of milk received daily 90% is bottled, the balance is sold in bulk. Here in the province of Quebec, it is unlawful to allow milk to go out for delivery the second time. Hence, all returned milk immediately passes on to the churns for butter. About sixty percent of the milk arrives by truck and forty percent by railway, all from within a radius of 125 miles of Montreal.

In their own suburban pickup system, the farmers deliver the milk to the company's branch stations, and the large tractor trailers gather the milk from there. The trailers are iced in the summer to keep the milk at the proper temperature during transit.

The dairy has a cafeteria for employees, with other recreation facilities, including the loan of parts of their surrounding farm for all employees who wish to raise their own vegetables.

The office staff have their own dining room and library for use during the rest periods.

It is this sort of cooperation between employer and employee that has spelled success for the Elmhurst Dairy Company Limited.


**NEW — INTERESTING — USEFUL**

MAGIC CREAM SIPHONS, for home use, remove cream from bottled milk, for use with coffee, cereals and desserts.

**PLEASE OLD CUSTOMERS— WIN NEW FRIENDS**

Leading dairy firms find Magic Cream Siphons a welcome sales booster aid. Housewives appreciate them and homes using a cream remover will consume more milk, when convinced by experience that many dishes are improved by the liberal use of milk instead of water in cooking. Free sample, for round or square bottles. Two models are made.

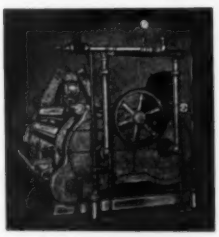
**$15.00 per gross-$100.00 per 1000**

**Complete Satisfaction Guaranteed**

**MERIT MANUFACTURING COMPANY**

3455 EAST 150TH STREET CLEVELAND 20, OHIO

*Better* **DRY MILK**



**AT LOWER COST**

**DRY MILK MACHINES**

**Built in Five Sizes**

The patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs.

*Complete details upon request.*

**OVERTON MACHINE COMPANY**

DOWAGIAC MICHIGAN

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## OF EVENTS TO COME

**Institute of Food Technologists**—Eighth Annual Conference, Philadelphia, Penna., June 6-10. Chairman Conference Committee, E. Everett Meschter, S. E. Cor. 3rd St. and Lehigh Ave., Philadelphia 33, Penna.

**National Dairy Council**—Summer conference, Edgewater Beach Hotel, Chicago, Ill.: June 14-16, 1948. Milton Hult, 111 No. Canal St., Chicago 6, Ill., President.

**American Dairy Science Association**—Annual convention, University of Georgia, Athens, Ga., June 14-16, 1948. R. B. Stoltz, Ohio State University, Columbus, Ohio, Secretary.

**Florida Dairy Industry Association**—June 17-19, Hotel George Washington, Jacksonville, Fla. Secretary E. T. Lay, Florida Dairy Association, 39 West Monroe St., Jacksonville, Fla.

**Certified Milk Producer's Association of America, Inc.** — Annual Convention Avalon Hotel Waukesha, Wisconsin, June 18-21. Luther Kohr, Executive Secretary, 1265 Broadway, New York 1, N. Y.

**Illinois Dairy Products Association**—Summer party sponsored by Boosters Association will be held at Nippersink Lodge, Genoa City, Wis., June 22 to 24. For reservations and additional information write Executive Secretary M. G. Van Buskirk, Illinois Dairy Products Association, 309 W. Jackson Blvd., Chicago 6, Ill.

616 Albee Bldg., Washington 5, D. C., Executive

**Michigan Dairy Boosters** — Summer Outing, Traverse City, Mich., June 23 to 25. Secretary, Cecil D. Mallory, 235 W. Jefferson Ave., Detroit 26, Mich.

**World Dairy Congress**—Twelfth meeting will be held in Stockholm, Sweden, August 15 to 19, 1949. For additional information, write XII Internationella Mejerikongressen, Postbox 642, Stockholm, Sweden.

**International Dairy Congress**—Twelfth international meeting will be held in Stockholm, Sweden from August 15 to 19, 1949. Enquiries concerning the congress should be addressed to XIIth International Dairy Congress, Post Box 642, Stockholm, Sweden.

**West Virginia Dairy Products Association**—Thirty-fourth annual convention, Greenbriar Hotel in White Sulphur Springs, W. Va., August 16 and 17. Secretary, John J. Slavins, 467 Chestnut St., Morgantown, W. Va.

**Minneapolis National Food Show**—Minneapolis Auditorium. Sponsored by the Minneapolis Retail Grocers' Association, September 11 through 19. Director, Norman F. Ludford, 510 Syndicate Building, Minneapolis, Minn.

**Indiana Dairy Products Association**—Annual convention will be held at the Claypool Hotel, Indianapolis, Ind., September 20-22, 1948. Executive secretary, C. C. Hadley, 622-24 Board of Trade Bldg., Indianapolis 4, Ind.

**New York State Association of Milk Sanitarians**—Annual convention, Hotel Statler, Buffalo, N. Y., September 22-24, 1948. C. S. Leete, New York State Department of Health, Albany, N. Y., Secretary.

**Dairy Industries Exposition**—Atlantic City, New Jersey, October 25-30, 1948. Roberts Everett, Secretary.

**International Association of Ice Cream Manufacturers**—Annual convention, Atlantic City, N. J., October 25-27, 1948. R. C. Hibben, 1105 Barr Bldg., Washington 6, D. C., Secretary.

**Milk Industry Foundation**—Annual convention, Atlantic City, N. J., October 28-30, 1948. E. B. Kellog, 1001 - 15th St., N. W., Washington, D. C., Secretary.

**Iowa Milk Dealers Association**—Annual convention will be held at the Hotel Fort Des Moines, Des Moines, Iowa, November 12 and 13, 1948. Secretary, John H. Brockway, 908 Walnut Bldg., Des Moines 9, Iowa.

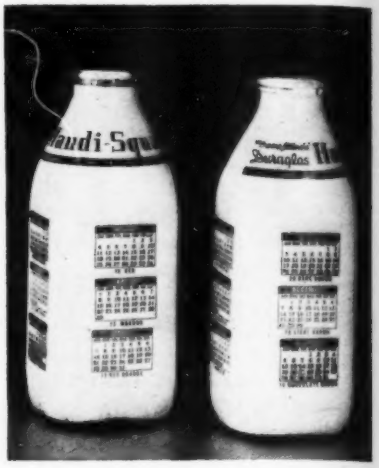
**American Public Health Association**—Nov. 8-12, Boston, Mass. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, N. Y.

**Illinois Dairy Products Association**—Annual convntion will be held at the Morrison Hotel in Chicago, Ill., December 13 to 15, 1948. Secretary, M. G. Van Buskirk, 309 W Jackson Blvd., Chicago 6, Ill.

**Dairy Industry Week**, Kansas State College, Manhattan, Kansas, Feb. 22, 23, 24. Prof. T. J. Clayton, Department of Dairy Industry.

### NOVEL DESK CALENDAR

The novel Handi-Square milk bottle shown here serves as a 1948 desk calendar featuring the months of the year in Applied Color Lettering on its four panels. This attractive Duraglas container demonstrates the thirteen basic colors of ACL fused onto glass that are



available in permanent label design for milk bottles. Identification of each color is shown below the month. The wrap-around type of decoration for shoulder use is also illustrated. The Duraglas Handi-Square with applied color lettering is manufactured by Owens-Illinois Glass Company, Toledo, Ohio.

●

### DELLWOOD DAIRY ELECTS

The directors of Dellwood Dairy Co., Middletown Milk & Cream Company and Morrisania Farm Products today announce the election of Edward O. Mather as President of these corporations to succeed A. H. Rubenfeld, who died on April 7, last. The three companies have headquarters in Yonkers and serve Westchester, the Bronx and Northern New Jersey.

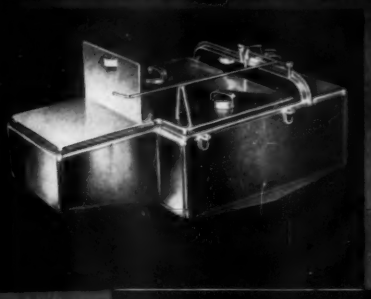
For the last five years Mr. Mather has been Executive Director of the Milk Dealers' Association of Metropolitan New York, Inc.

A native of Austin, Texas, Mr. Mather's graduation in 1927 from the University of Texas was followed by three years in Oxford University as a Rhodes scholar. He received the degree of Bachelor of Jurisprudence there. Thereafter, obtaining the degree of LLB in the University of Texas, he practiced law in Fort Worth until 1934, when he went to Washington as Assistant Deputy Administrator in the National Recovery Administration.

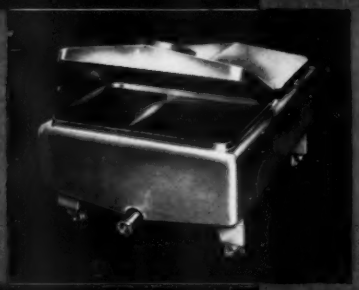
During the war Mr. Mather served as a special consultant to the Secretary of Agriculture.

SANI Certified

# SPECIAL EQUIPMENT for Processing Dairy Products



Weigh Tank



Receiving Tank

General Purpose Tank

Cheese Cooker

Balance Tank

NO PROBLEM is too unusual for our Engineering Department. Alert to every change in the dairy products industry, our specialists build the machinery you need *when* you need it.

A glance at the list below will show you the scope of our regular manufactured line. But if your particular requirement is not listed, you can have special equipment designed for your own needs. Use our free advisory service.

Write us today.

***WE MANUFACTURE REGULARLY:***

- Balance tanks
- Cold wall milk storage tanks
- Milk storage tanks
- Truck and trailer tanks
- Receiving tanks
- Weigh cans
- Hot wells
- Ice cream mix tanks
- Cheese cookers
- Cream coolers
- Hoppers
- General purpose tanks

Small Processing Tank

## STAINLESS & STEEL PRODUCTS COMPANY

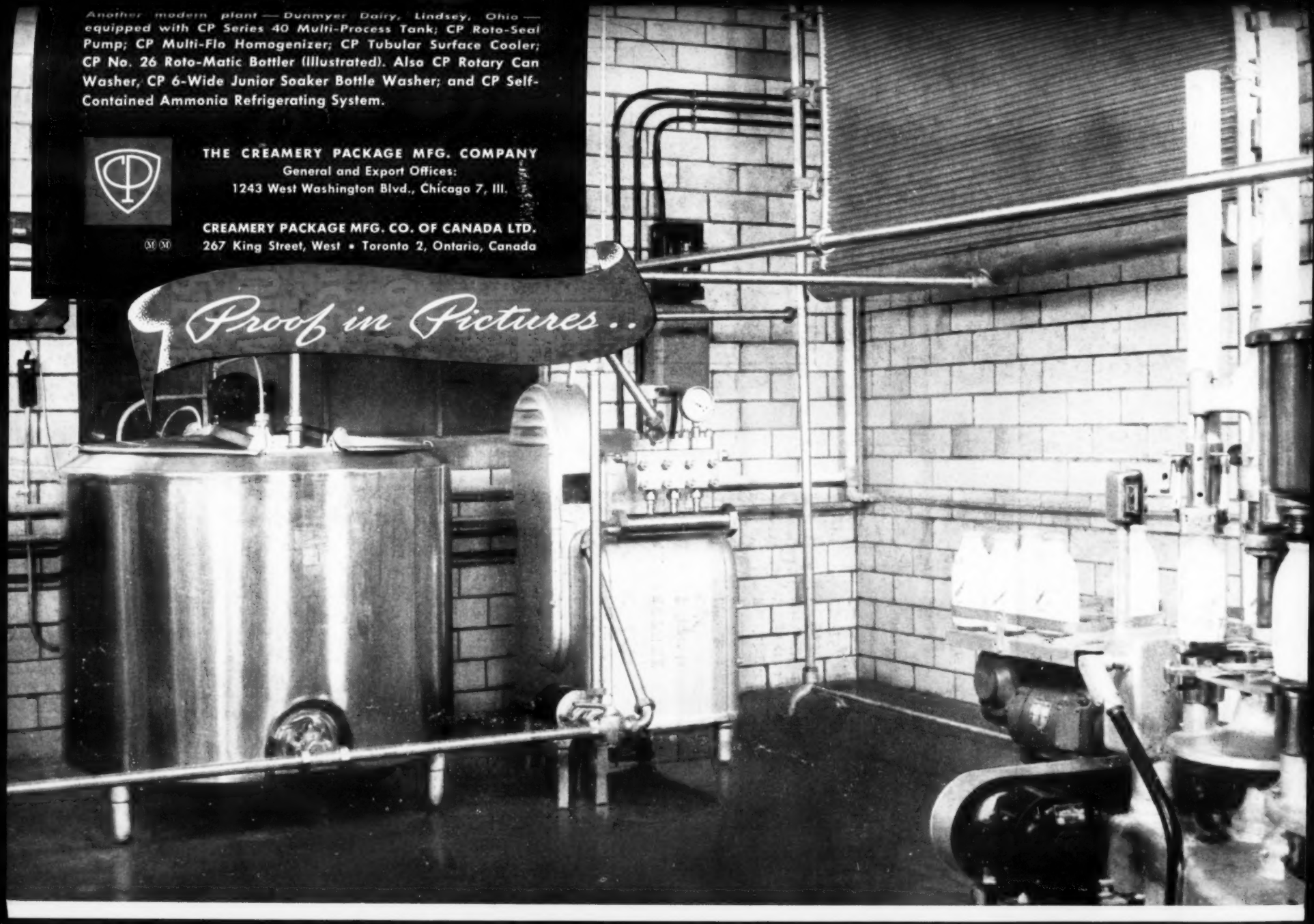
1000 BERRY AVE. ST. PAUL 4, MINN.

*Another modern plant — Dunmyer Dairy, Lindsey, Ohio — equipped with CP Series 40 Multi-Process Tank; CP Roto-Seal Pump; CP Multi-Flo Homogenizer; CP Tubular Surface Cooler; CP No. 26 Roto-Matic Bottler (Illustrated). Also CP Rotary Can Washer, CP 6-Wide Junior Soaker Bottle Washer; and CP Self-Contained Ammonia Refrigerating System.*

THE CREAMERY PACKAGE MFG. COMPANY
General and Export Offices:
1243 West Washington Blvd., Chicago 7, Ill.

CREAMERY PACKAGE MFG. CO. OF CANADA LTD.
267 King Street, West • Toronto 2, Ontario, Canada

*Proof in Pictures . .*

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